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THE ETHICAL IMPORT

OF

DARWINISM

THE ETHICAL IMPORT

OF

DARWINISM

BY

JACOB GOULD SCHURMAN

M.A. (*Lond.*), D.Sc. (*Edinb.*)

PRESIDENT OF CORNELL UNIVERSITY

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To

JAMES MARTINEAU, D.D., LL.D.,

THE ETHICAL AND RELIGIOUS HELPER OF TWO GENERATIONS,
THIS STUDY OF EVOLUTIONARY MORALS
IS INSCRIBED
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PREFACE.

THERE is a remark of Mrs. Carlyle's which has always seemed to me highly suggestive. When asked to explain her manifest antipathy to Bishop Colenso, whom Mr. Froude had got invited to one of her tea-parties, she confessed that it arose in part from the anomalous appearance presented by "a man arrived at the years of discretion wearing an absurd little black-silk apron," and in part from the incongruity between that ecclesiastical symbol and this particular bishop's "arithmetical confutation of the Bible;" for, proceeds the philosophical lady, generalizing the causes of her unfavorable impressions, "*it is the mixing up of things which is the Great Bad.*"

In what passes with us for the doctrine of evolution there is a mixture of science and speculation. Yet it is customary to serve it all up together, so that the hungry soul must needs take all or none. The result for many minds is apt to be indigestion or starvation. But this cruel di-

lemma might be escaped, if the fact and the fancy entering into current evolutionism were kept apart and dealt out separately. The mind's natural craving for knowledge could then be satisfied without detriment; for it is only when science is adulterated with nescience that it becomes unwholesome and poisonous.

The object of the present volume is to distinguish between science and speculation in the application of Darwinism to morals. The results of evolutionary science in the domain of matter and in the domain of life are everywhere taken for granted; the philosophical and, more especially, the ethical theories currently associated with them are subjected to the most searching scrutiny I have been able to make. As it has been pretended that the doctrine of evolution invests ethics with a new *scientific* character, I first examine the various methods of ethics and attempt to determine under what conditions alone ethics can become a *science*. (*This first chapter should be omitted by the general reader not interested in the logic of ethics.*) Whether Darwinian ethics is a piece of science or of speculation appears in the sequel. But before the question is decided we must know what is meant by Darwinism. Accordingly, the second chapter gives an exposi-

tion of the Darwinian theory, comparing and contrasting it with the more general doctrine of evolutionism, whose history and meaning are also briefly traced. Then follow chapters on the philosophical interpretation and the ethical bearings of Darwinism. The fifth chapter is devoted to an examination of the ethical speculations which Darwin grafted upon his biological science. These chapters confirming the conclusion reached in the first chapter, that a *scientific*, as opposed to a speculative, ethic can be constructed only by adopting the historical method, the last chapter has to show what light may be thrown upon ethical problems by tracing the actual development of moral ideals and institutions, of which, for obvious reasons, the domestic virtues are here taken as typical illustration.

The work is primarily the outcome of my own reflective needs. It has cleared up in my own mind the confusion between guesses and facts, which is "the Great Bad" in evolutionary ethics. I am not without hope that it may also prove clarifying to other minds. Not, of course, that I would presume to instruct trained philosophical experts; but I have in view the increasingly large number of intelligent men and women who, without making a special study of philosophy,

would fain comprehend the significance for morals of that evolutionary theory which has revolutionized modern science and culture. This alone would have been sufficient motive for the avoidance of obscure and technical phraseology and the cultivation of a popular style; but, apart from that consideration, I hold that the first duty of any philosophical writer is to make himself generally intelligible, and I am of the opinion that there is no theory, or criticism, or system (not even Kant's or Hegel's), that cannot be clearly expressed in a language which in Locke's hands was strong and homely, in Berkeley's rich and subtle, in Hume's easy, graceful, and finished, and in all three alike plain, transparent, and unmistakable.

This study of Darwinism in ethics being so largely of a reflective character, reference to other works has not in general been considered necessary. I wish here, however, to acknowledge especially my indebtedness to Darwin, whose ethical speculations, illusory as I now hold them, I have found more stimulating than any other similar work since the time of Kant.

J. G. S.

CORNELL UNIVERSITY, August 22, 1887.

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ETHICAL IMPORT OF DARWINISM.

CHAPTER I.

METHODS OF ETHICS, EVOLUTIONARY AND OTHER.

Nothing can be more perplexing to anyone reflecting upon the unanimity of men's moral judgments than the diversity and contrariety of the theories founded upon them. The incongruity is as palpable as it is startling. Nor is it much, if at all, relieved by the qualification of varying moral belief and practice, which a more extended survey of humanity, past and present, obliges us to make in our first generalization. For if human morality is not at all times and in all places absolutely identical, it is rather in minor details or in unexpected applications of common principles that there is any considerable deviation from the universal type. Besides, this divergency cannot be the origin of our opposing ethical theories, since were it to vanish, they would still remain. And,

indeed, it is a simple matter of history that the antinomies of our ethical systems have not originated in a distinct consciousness of differences in moral codes, for these systems are almost always theories, not of varying universal morality, but of the common morality of the modern civilized world. The contrast, therefore, between the uniformity of moral data and the diversity of so-called moral sciences suffers no diminution from the circumstance that that uniformity may be to some extent relative. The broad fact remains, that while all are agreed that certain courses of conduct are right and the opposite wrong, moralists seem unable to agree in anything except the contradictory claim of building their incompatible theories upon these universally recognized propositions.

There can be no question about the existence of this fundamental antinomy. It is admitted, or rather it is accentuated, by the ablest writers on morals. Nor has any attempt, I believe, ever been made to explain it away. But while it is mentioned as a commonplace, and put aside as if from fear of demonstrating a truism, its consequences have been steadily overlooked. No one has inquired whether a subject-matter which has begotten such contradictions really admits of

scientific treatment at all. Schleiermacher is scarcely an exception, since his profound and penetrating critique is rather a dialectical exposition of moral principles and ideas than a logical investigation into the requirements of a moral science. Yet the question is surely of primary importance. We cannot think so meanly of science as to believe it possible for the same problem to have opposite solutions. The history of ethics, however, presents us with this incredibility. Is, then, ethics a science? This question, unfortunately, was not raised by Kant. Had it occurred to him his legacy to future ages would scarcely have included, along with a demonstration of the impossibility of metaphysics, an actual metaphysic of ethics. But the errors of great thinkers are scarcely less instructive than their perfect achievements. And Kant's critique of our *à priori* knowledge suggests the kind of inquiry from which ethics can no longer be withheld. When, along with the possibility of pure mathematics and physics, he asks, How is metaphysics in general possible? and, How is metaphysics as a science possible? he formulates the very questions which, *mutatis mutandis*, the history of modern ethics and the logic of the sciences alike make incumbent upon contemporary moralists.

And until these questions on the possibility of their science are answered, they should (to appropriate Kant's language) be solemnly and legally suspended from their present dubious occupation.

It may be objected, however, that we have prejudged the question of the actual existence of ethics as a science in accepting the adverse *prima facie* evidence drawn from the number and the opposition of ethical theories. The same diversity, it will be alleged, is found in other sciences whose validity no one thinks of doubting. In fact, putting aside, on the one hand, the purely observational sciences (if there be any, for chemistry is no longer one), in which demonstration has not begun, and, on the other hand, the mathematical sciences, in which it is complete, it will be hard to find any intervening science which is, and has been, wholly exempt from the contradictions of opposing hypotheses. In natural history, for instance, our own generation has "assisted" at the liveliest disputations concerning the nature and origin of species; and our fathers witnessed, in the domain of physics, a struggle scarcely less bitter between the corpuscular and the undulatory theories of light. Mathematics even has been in the past the scene of like encounters; for

though the analytical geometry of Descartes prevailed without opposition, a fierce warfare was waged over the comparative merits of the fluxions of Newton and the calculus of Leibnitz. And (to have done with illustration) the Ptolemaic and the Copernican hypotheses long held the field together as rival systems in astronomy. Yet, in the face of such radical opposition of theories, it was never maintained that the sciences of astronomy, mathematics, physics, and biology were illusory, or even impossible. Should not the examples be a warning to us against inferring over-hastily the illegitimacy of ethical science?

And yet there is a difference. Those oppositions, as we know, have been ultimately set at rest, while ethics remains the scene of perpetual antinomies. Where the controversies have not been laid, as, for instance, in political economy, the legitimacy of the science has actually been denied. To ethics alone belongs the exceptional prerogative of ranking as a science while retaining for subject-matter the still unsettled questions which three-and-twenty centuries ago were already themes of discussion among the *savants* of the Hellenic world.

What, then, constitutes a science? If this can be determined, we shall be in a position to decide

upon the scientific pretensions of ethics. We cannot define science, however, until the very point at issue is settled—whether that term is to denote, along with the various branches of our systematic knowledge of natural phenomena and their quantitative relations, such disciplines as logic, dialectic, ethics, and metaphysics. Certainly the oldest known classification of the sciences embraced logic, ethics, and physics. And apart from the sciences themselves, we have no royal rule of exclusion or admission. In doubtful cases, therefore, the only course open to us is to compare the branches whose scientific character is questioned, with others whose scientific character is unimpeachable.

First of all, then, following the ancient classification, ethics may be compared with logic. Now, logic is the science of reasoning, taking that term in its broadest sense. In other words, it is the theory of the ascertainment of reasoned or inferred truth. It does not undertake to find reasons, but to determine what is required to constitute them, to point out the conditions to which all facts must conform in order that they may serve as proof or evidence. But these conditions are not deduced from any transcendent source. They are simply the rules which men observe in

the reasonings and inferences of their every-day life, without reflection, or even without distinct consciousness. Logic, accordingly, gives us no new information. It merely makes explicit for reflection what was already implicit in cognition. But our stock of knowledge is not increased by an analysis of the processes whereby it has been obtained. My syllogistic reasonings, my assumption of universal causation, my deductive and experimental investigations may proceed now, as they did originally, in utter independence of a logical formulation of them.

Is ethics, now, a science of this character? Some analogy, at least, lies upon the surface. As logic analyzes and classifies the processes of thought, so ethics may be regarded as a systematic exhibition of the phenomena of conscience. It has not to determine of itself the nature of good or evil, but simply to observe, collect, and classify the moral experience of mankind. Its observations should be true, its collections exhaustive, its classifications systematic. The result, among other things, would include a list of virtues, such as temperance, fortitude, etc., or a table of duties, such as duties to friends, to the state, to humanity. But an ethical science so restricted, it would, I think, be difficult, if not im-

possible, to find anywhere realized. Moralists have deemed it a part of their business to inquire into the foundations of moral judgments, and even, in some cases, to correct and improve them. It is as though logicians should undertake to establish, or even to remodel, those laws of thought which they have hitherto accepted from the general consciousness of mankind. Such inquiries no more belong to logic than an inquiry into the nature of space or the evidence of the axioms belongs to geometry. And if ethics is to take rank with logic as a science of pure observation and analysis, it must be purged of these extraneous questions that range beyond the limits of description and classification. With this limitation of its subject-matter would come, no doubt, a diminution of interest; since it has been precisely by the problems thus excluded that morals have always fascinated the deepest thinkers, and withheld them (Aristotle alone excepted) from essaying a descriptive ethics, the lack of which, as when Bacon first deplored it, we must still make good by the concrete illustrations of dramatic poetry. But I am not maintaining that ethics should be curtailed. I am concerned only with its scientific character. And I think it evident that, though ethics may, for all that, be a legiti-

mate science, it cannot claim to be a science of the same type as logic, without at least foregoing the problems which have hitherto constituted its principal subject-matter.

Can ethics, then, be likened to mathematics? Between this science and logic there are striking points of contrast. Mathematics reasons about real existence in its most general aspects of space and time and number; logic deals only with the empty forms of reasoning. Both start with fundamental principles of intelligence; but the procedure in one case is analytic, in the other synthetic. In logic, consequently, there is no subsequent advance upon the initial laws of thought, with which everything else is given; but in mathematics the axioms and definitions are, by constructive imagination or synthetic insight into new relations, realized into a body of demonstrations, which are not less certain than the first principles, but of which these gave no anticipation or prophetic hint. A real science thus formed by the mind out of its own resources, in utter independence of sense, is too captivating an ideal for the genius of speculation to resist; and it has been the model of the systems at least of Plato and Spinoza. Even a mind so sober and cautious as Locke's did not escape the fascination, and that, too, with

regard to ethics. Though he never undertook the task, and when urged to it, late in life, by his friend Molyneux, declined on the ground of a preference for the practical morals of the New Testament, Locke nevertheless tells us, more than once, and maintains, in accordance with his doctrine of the self-archetypal character of complex ideas, that the rules of morality may be demonstrated in the same manner, and with the same evidence, as the propositions of geometry. He recognizes, as compared with moral ideas, the greater simplicity of mathematical ideas, and their representability by diagrams or other sensible marks; and though he admits this gives to the ideas of quantity a real practical advantage, and has made them thought more capable of certainty and demonstration, he yet emphatically reiterates that "from self-evident propositions by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out to anyone that will apply himself with the same indifferency and attention to the one as he does to the other of these sciences." What, then, are these "self-evident propositions" which constitute the foundations of our duty and rules of action? If we look for anything so simple and evident as the axioms, definitions, and postulates of geometry, we

shall be much deceived. Far more than this is included in those first principles in virtue of which morality is to be placed amongst the sciences capable of demonstration. They comprise "the idea of a Supreme Being, infinite in power, goodness, and wisdom, whose workmanship we are, and on whom we depend; and the idea of ourselves, as understanding, rational beings."

But the admission of even such principles does not assimilate the scientific character of ethics to that of mathematics. It seems to do so only because of the inveterate, though ungrounded, habit of regarding mathematical truths as deductions from given first principles. So long as the theorems of geometry and algebra are imagined to follow from the axioms and definitions with the same inner necessity as a syllogistic conclusion from its major and minor premises, so long must the procedure of mathematics appear applicable to ethics when once the latter has discovered suitable starting-points. For both sciences are thus conceived as merely specialized forms of logic. This, however, is to overlook precisely the essential point. If ratiocination in ethics, as in logic, gives us no new information, leaving us in the issue exactly where we stood at the outset, there is, on the contrary, in the demonstrations of

mathematics a constant advance upon previous attainment, so that each new result is an original addition to what went before, not, as in logic, a mere explication of it. Every mathematical proposition, being the expression of a fresh insight, of a brand-new perception of relations, by the synthetic activity of the mind, has its voucher, not in antecedent truths, but in the immediate affirmation of that constructive intelligence by which those truths in continuous regression to the axioms have been evidenced and maintained. It is not, therefore, as Locke supposed, merely a lack of first principles from which ethics suffers in comparison with mathematics. Ethics is fatally handicapped in quite a different way. In the spatial relations, *e.g.*, with which geometry deals, the mind has the power (prior to sense-experience, too) of making intuitive discoveries, of constructing, as it were, by its own native activity, a genuine science (which is afterwards found valid for the objects of perception). The geometer, accordingly, knows a great deal more about the relations of space than the rest of mankind do. But the moralist can tell us nothing new about morality. The sciences begun by Euclid and Archimedes have been so extended in the course of eighty generations that the most arduous study

of a lifetime often fails to cover the range of their original discoveries. But the science begun by Socrates is still unfounded; and every schoolboy knows as much about morals as the greatest ethical philosophers, though among them have been included the noblest geniuses of humanity. The subject-matter of ethics does not, like mathematics, admit of progressive determination by the synthetic intuition of the mind. And the reason, since Kant's time, is not far to seek. Goodness is not, like space, a constitutive, *à priori* form of our sensuous experience. Any new propositions you make about it, therefore, can never be actualized into fact; they remain a dialectical exercise, or even a play of words. And so long as that is so, no supply of first principles can confer upon ethics the scientific character of mathematics; they stand as widely apart as analysis of the known and synthesis of the unknown; and if you persist in calling them both demonstrative, you must not overlook the vital difference that the mathematician demonstrates by direct insight into new relations, the moralist solely by unfolding what is already taken for granted. In the nature of things, therefore, Locke's well-meant attempt to introduce the procedure of mathematics into ethics was doomed to miscarry.

It follows, too, that in the analytic deduction of moral rules from Locke's first principles—the idea of a Supreme Being, on whom we depend, and of ourselves as rational beings—the difficulties attaching to our conception of moral rules are not removed, but simply refunded into the assumed first principles. If they are not immediately visible there it is only because the assumptions are so much vaster than this particular application of them that our special problem is overshadowed by the larger issues to which its solution has given rise. But a moment's reflection will show that the debated points of morals cannot be made to disappear, even at the theistic point of view. And it is a matter of history that theistic moralists fall into the same ethical antagonisms as the sceptics do. Paley and Butler, Edwards and Kant, are, in some respects, as fundamental oppositions as the whole history of ethics presents.

Nor is the fact really surprising. For the idea of a Supreme Being, on whom man depends, contains no information about man's moral nature, or the end of his conduct, or his specific duties and obligations. You cannot deduce from that idea the character of conscience or will; it does not supply you with a standard of morality; it does not show you in particular cases what you

ought to do. It is an extraneous form, into which you pour the whole ethical content, be that content what it may. Morality is not a deduction from theism, but theism a superinduction upon morality. It is only by observation, analysis, and reflection we can discover wherein man's moral life consists. And the results thus experientially established would never have been mistaken for deductions, had men kept in view the distinction between knowledge and the supposed vouchers of it, between the *ratio cognoscendi* and the alleged *ratio essendi.* The idea of a Supreme Being is not, nor can it be (as Locke held), the *ratio cognoscendi* of morality. Whether it can be the *ratio essendi* is another point which we need not here discuss, but which, though granted, would be a fruitless admission in the face of sceptical and agnostic science. Theological ethics cannot get under way at all without proving the existence of God; but neither that nor any other superior principle can endow ethics with the demonstrative character of mathematics.

It has now been shown that ethics is not a science of the type of logic or mathematics. The next thing is to compare it with the natural and historical sciences. If its scientific character presents no analogy or only a partial analogy to

theirs, then nothing remains but to point out its unique nature, and inquire finally whether ethics be not less a science than a branch of speculation? In the meantime, however, we must not forget, and may derive hope from, the current fashion of identifying the science of morals with the sciences of nature. Though mathematical ethics be a vision, who shall say that physical ethics may not become an actuality?

The sciences of nature have been classified as deductive or experimental. Originally they were all experimental; their laws expressing only those particular uniformities which observation and experiment showed to exist, but giving no reasons for their existence. Such an empirical law we have, *e.g.*, in the tendency of hot water to break glass. Now, when the particular empirical laws of a science can be brought into relation to more general laws, seen to be special applications of them, and so deducible from them, that science passes from the experimental to the deductive stage. The cracking of glass by hot water, for example, takes its place as a phenomenon of deductive science as soon as it has been shown that heat tends to expand all substances, that the crack is due to the expansion of the heated portion in spite of the adjacent cooler por-

tion, and that no crack would have occurred had the heat been equally diffused as in thin glass vessels through which it passes rapidly. The illustration suggests that deductive science, having apprehended the reasons of phenomena, may be able to predict their occurrence; and everybody is acquainted with the sublime prophetic achievements of astronomy. This power of prediction clearly marks off the deductive from the experimental sciences. And so much being premised, we are now prepared for the inquiry whether ethics belongs to either division? If it be of the same general type as the sciences of nature, it must be either a deductive or an experimental science.

In assigning ethics to either of these classes, however, one assumption is made too significant to pass without distinct mention. The sciences of nature all rest upon the presupposition that events follow one another in a fixed and regular order, that the same cause under the same circumstances always produces the same effects, that the entire realm of natural phenomena is subject to the reign of inexorable law. Deny the principle of universal causation, and natural science is smitten with paralysis. You may be in doubt about the proof of the principle; you may attempt to for-

tify its validity by *à priori* deduction, like Kant, or by observation, like Mill, or you may, like Lotze, confess it is the indemonstrable postulate of all our knowledge; but you cannot for a moment fail to see that the law, however it may be established, is indispensable to the natural and physical sciences, which presuppose it at every step.

Now, to say that ethics is a science of the same type as botany or astronomy is to assert that the methods of investigation applicable to the latter are equally suited to the former, and consequently that constancy of causation, which is the foundation of those methods, must obtain among moral phenomena with the same rigorous invariability as among the events of nature. Nor can anyone at all alive to the drift of contemporary thought and culture have failed to observe the prevalent acceptance of this determinism, especially on the part of the ever-increasing number of scientific inquirers. Schopenhauer, indeed, erected the dogma into a test of mental vigor, and maintained, with characteristic asperity and assurance, that none but intellectual dwarfs could be libertarians. At the present day the triumphant reign of physical science has begotten a distrust in metaphysical ethics; and men have turned their gaze

from the noumenal freedom in which Kant found the *sine qua non* of duty, to look for a basis of morality in the sensible facts of the phenomenal world. And it is really claimed that, after the lapse of so many barren centuries of ethical logomachy, the science of morals has at last been set upon an immovable foundation through the discovery that human conduct is subject to necessary relations of cause and effect, from which all moral rules are ultimately deduced.

This bold reconstruction of ethics on the law of universal causation, after the model of a deductive science like astronomy, has been attempted by Mr. Herbert Spencer. Unfortunately, however, of Mr. Spencer's promised "Principles of Morality," only the first part—the "Data of Ethics"—has yet appeared; and this instalment, though postulating for ethics an immediate evolution, like that which in the course of centuries transformed empirical into rational astronomy, does not demonstrate the possibility of such a development, still less accomplish it, or even make its accomplishment very credible to anyone who can resist the contagion of the evolutionist's scientific optimism. When the work is completed, it will be easier to judge how far Mr. Spencer has succeeded in deducing moral rules from first princi-

ples. In the meantime, one who sees in the undertaking merely a repetition of the fruitless attempt of Locke may be allowed to recall Hume's deprecation of the application of deduction to ethics on the ground that this method, though in itself more perfect, was less suited to the imperfection of human nature, and was a common source of illusion and mistake in this as well as in other subjects. But whatever the future may disclose regarding the deducibility of rules of conduct, it is clear that deductive ethics, if it is to be a science, must not start with assumptions unwarranted by, or even opposed to, the common-sense of mankind. The first principles of astronomy and physics are indisputable; if ethics is to take rank with them, its first principles must be equally axiomatic. But Mr. Spencer, under the influence of what Mill has called an *à priori* fallacy, the offspring of hedonism and utilitarianism, lays the foundation of his science of rational, deductive, absolute ethics in the dogmatic identification of goodness with pleasure. He holds it "to be the business of moral science to deduce, from the laws of life and the conditions of existence, what kinds of action necessarily tend to produce happiness, and what kinds to produce unhappiness. Having done this, its deduc-

tions are to be recognized as laws of conduct." But that moral rules have no other foundation than their felicific consequences is so far from self-evident, so foreign to popular thought and modes of expression, to say nothing of moral philosophy, that the proposition could only emerge as a final result, not stand as the first datum, of a truly scientific ethics. Accordingly, the scientific character of morals—and it is that we are now investigating—will not be affected by the contingent issues of Mr. Spencer's venturesome enterprise. Should he, like Locke, fail in his promised deduction of rules of conduct, the so-called "rational ethics" will have lost its doughtiest champion; should he succeed, his deductions will afford no proof of the evolution of empirical into rational ethics until it has first been established that the logical movement has really been in the ethical sphere—that is, until it has been shown that the counsels of prudence and precepts of utility, which he professes to have deduced from the laws of life and the conditions of existence, are synonymous with the moral laws intuitively recognized by mankind. But this, unfortunately, has been a *quæstio vexata* since the very beginning of moral philosophy, and it is apparently no nearer settlement to-day than at its

first discussion between the youthful Socrates and the venerable Protagoras, when, in the whirl of debate, the protagonists were unwittingly carried round to opposite sides, and each was in the issue amazed to find himself attacking the position he deemed impregnable and espousing the cause he repudiated as false.

But there are, as we have seen, two types of the sciences of nature—the deductive and the empirical—represented respectively by astronomy and botany. And if at present ethics cannot claim to rank with the deductive, may it not at least find a place among the natural sciences of the empirical kind? Failing to justify this position, ethics, it would seem, must be stripped of its scientific pretensions, and banished to that dim region of ontological abstractions which agnostic metaphysicians keep for their gnostic rivals —a limbo of intellectual inanities, of ghosts of human speculation (*vanitas vanitatum*), which, like the unaccomplished works of nature, remains forever "abortive, monstrous, or unkindly mixed."

There is, however, reason to believe that physical ethics, empirical if not deductive, is by no means an impossibility. It is certain that, apart from Mr. Spencer, this is the method of ethics generally

adopted by the evolutionists. Eschewing every attempt to deduce moral rules for the guidance of conduct, they institute an inquiry into the origin of that morality by which human life is actually regulated. It is not their business to tell men how they should act, or to supply them with motives for originating or principles for regulating their behavior, still less to mete out esteem and affection or hatred and contempt upon what may be considered the estimable or the blameable qualities of men. On the contrary, their aim is purely theoretical. They seek only the genesis of those moral notions, beliefs, and practices, which constitute an obvious phenomenon of the life of man. As there is an anatomy of the body, which resolves limbs into tissues and tissues into cells, and a physiology, that represents the modes in which the functions of the body are performed, so there may be a physiology and anatomy of conscience, to inquire into its operations, to dissect complex moral phenomena into simple elements, and finally, under the guidance of evolution, to track these elements to their last hiding-place in the physical constitution and environment of the lower animals. The natural history of moral phenomena may still be unwritten; but if it be true, as logicians tell us, that

any facts which follow one another according to constant laws are in themselves fitted to be a subject of science, why deny the scientific character of an investigation whose ideal is to follow the development of morality from its earliest rudiments and to ascertain the order of antecedence and consequence in the series of intervening phenomena? Physical ethics, based on the law of universal causation, applies to morality the same method of investigation as biology has used for the elucidation of the true relations of the phenomena of life; and on whatever ground we term the one a science, the other would seem entitled to the same appellation.

Nevertheless there is a striking difference, if not in the intrinsic character, in the external condition of these two sciences. Biology, as natural history of life, is an achievement; physical ethics, as natural history of morals, is a dream. It may be that the aspiration of the scientific moralist is a genuine prophecy, that his vision is an inspiration of the faculty divine; but it must be admitted that in the meantime his ideal of a science of ethics is unrealized. And this negative instance is sufficiently striking to give pause to our scientific enthusiasm.

Let us consider the matter a little more closely.

It will be conceded that, so far as observation and classification go, moral phenomena are not less manageable than biological; and in this respect both sciences stand on the same level as logic and psychology. At the next stage, however, a difference emerges. After biological phenomena have been noted and grouped, they may be resolved into simpler elements, as the tissue, *e.g.*, into cells. And in chemistry, though obviously not in biology, it is possible to verify the analysis by a reproduction of the complex through synthesis of its resultant elements. But moral phenomena are not susceptible of a similar analysis. Every resolution of morality, or of any part of it, into something else must needs be artificial and arbitrary. You do not here know what is simple and what compound. In this respect ethics falls behind even psychology in its amenability to scientific methods. The psychologist, starting from the side of objective science, is wont to take sensation as his datum, and from that stand-point is justified in regarding it as better known than any other mental experience; so that an explanation of the higher intellectual processes and products may always be given by resolving them into this datum, as when Hobbes, following Aristotle, describes imagination as "de-

caying sense." Beyond sensation, psychology does not go; but psycho-physics shows that an apparently simple sensation is itself made up of elements—Leibnitz's *petites perceptions*—which may be expressed for science in terms of the stimuli in which they originate. But this regressive analysis of the more complex into the less complex, until indecomposable factors are at last reached, cannot be applied to moral phenomena without making arbitrary and unwarrantable assumptions. This limitation of ethics, inherent in its subject-matter, is constantly overlooked; and to the ignoring of it is due the diverse and mutually confuting systems of derivative morals.

The farther we remove from simple observation and classification, the greater is the difference between the scientific character of ethics and biology. And to the disadvantage already noticed we have now to add another, which goes to the very root of the matter in hand, and seems to negate the possibility of turning the ideal of physical ethics into an actuality. When the biologist, besides dissecting complex phenomena into their elements, also demonstrates in a long series of forms, existent or extinct, the gradual building up of the complex organisms out of the simpler (by means, as he believes, of natural

selection), he appeals, not to imagination, but to observation; for the successive growths are actually open to view on the surface of the earth or in its fossiliferous strata. He may be wrong in his explanation of the process of development—and it is not improbable that natural selection is not the only or even the chief agency; but about the existence of a series of related forms that have followed one another through the lapse of vast geological epochs there cannot be a particle of doubt. With our scientific moralist, however, the case is absolutely different. I do not mean merely that he is ignorant of the connections between moral phenomena; for facts may become the subject of science though the laws of their sequence be undiscovered or even beyond the reach of discovery by our existing resources. But without the facts themselves there can be no science. And it is the misfortune of the scientific type of ethics we are now investigating that the phases of morality it binds together in its theory of development are, when not a part of human history, purely imaginary. We know nothing about the morals of the first species that ceased to be non-moral. From structural affinities and rudiments the naturalist may trace the genealogy of man and reconstruct his simian or

pre-simian ancestors; but what material is there for determining their morals—what but the individual preconceptions of the inquirer? And of the morality of even our own race, in its pre-historic stage, we are in similar ignorance. What marks of virtue, *e.g.*, do you find in the shape, or size, or cubic capacity of the Neanderthal skull? *There is no fossil pre-human morality.* And for lack of it the ideal of physical ethics remains unrealized.

The outlook for the "science" of ethics grows less promising at every new survey. With whichever of the sciences we compare it, some reason emerges for excluding it from them. Its data do not carry it back with biology to the dawn of life. It is not, like mathematics, synthetic and demonstrative. And if it is to take rank with logic, it must forego every function except classification and observation, and be content to pass rather as a formal discipline than a real science.

Perhaps, however, we have been over-hasty in rejecting physical ethics, or, rather, the physical method of ethics. Though in its extant form of an imaginary development of moral from imaginary pre-moral phenomena it overleaps itself and, with vaulting ambition, falls to the other side,

it is not inconceivable that the method might be so applied as to produce a genuine science, but of narrower limits in space and time than current evolutionary ethics is wont to set. Such restrictions are given, indeed, in the very subject-matter of ethics. For moral phenomena imply moral beings; and since, as Darwin himself tells us, "a moral being is one who is capable of comparing his past and future actions or motives, and of approving or disapproving of them," and "we have no reason to suppose that any of the lower animals have this capacity," it follows that the science of morals should take cognizance only of "man, who alone," as Darwin emphatically adds, "can with certainty be ranked as a moral being." There is, therefore, nothing to carry the scientific moralist out of the human sphere. It is different with the biologist. The human hand is constructed on the same pattern as the hand of a monkey, or the foot of a horse, or the wing of a bat; and the human embryo is at first hardly distinguishable from the embryo of a dog, or seal, or reptile; so that any scientific explanation of man's bodily organism is inadequate, if not impossible, without reference to the lower animals. But in ethics such reference seems little less than a vain parade. You may of course study the

psychical attributes of the dog or the elephant, and this is a field much in need of cultivation; but however rich your harvest of observations, you will be no whit nearer the origin of human morality so long, at least, as conscience continues the unique prerogative of man, the only moral being we know. Even if you imagine a moral sense in the higher brutes, your descriptive ethics, though acquiring thereby a comparative character, would be as far as ever from that genesis of man's morality which evolutionary moralists profess to explain in their theories of physical ethics. Accordingly, the scientific moralist, instead of roaming comprehensively over the fields of animal life, must brood intensely at the altar-fires of the human heart. However deep the mysteries of man's moral nature, no irradiating light falls upon them from the non-moral world without. The moral being is more than the child of nature; he is the member of a kingdom where time and space are not. Yet is virtue not withholden from scientific survey, since its manifestations fall in time and constitute a part of the history of humanity. And if ethics, instead of groping through the void, impalpable inane of fictitious pre-human morality, would in good earnest describe historic morality in all its fixed and changing characters,

tracing the evolution of moral ideals and institutions from their earliest to their present form, then its scientific character, which is to-day a reproach, would be firmly established, and it could claim to be a science as unimpeachable as any other branch of history. Some such ideal doubtless floated before the minds of those writers who saw in ethics a comparative and evolutionary anatomy and physiology of morals; but the associations of natural history led them to substitute the whole extent and duration of organic life, which is essentially without moral character, for the narrow and brief history of mankind, in which alone moral phenomena are actually found.

Here then, at last, we have an answer to the question, How is ethics as a science possible? If it is ever to rise above the analytic procedure of logic, it can only be by becoming one of the historical sciences. Given the earliest morality of which we have any written record, to trace from it through progressive stages the morality of to-day: *that* is the problem, and the only problem which can fall to a truly *scientific* ethics. The discovery of these historical sequences constitutes the peculiarity of the science, which, like every other, presupposes observation, analysis, and classification. Whenever a system of ethics pro-

fesses to be a science of any other type, whether of the physical or the mathematical, it is setting up its own speculations for facts, and imposing upon us a dogmatism for which no shibboleth can atone, be that shibboleth intuitional or utilitarian, absolutist or relativist, pro- or anti-evolutionary.

This conclusion cannot be other than unacceptable at a time when philosophical schools, differing so widely in theory, have agreed in the practice of producing and reading innumerable works on "moral *science*," or the "*science* of ethics" as it is now more generally designated. And yet the conclusion is inevitable. I dare not say, as Buckle used to say categorically of a very different proposition, what makes it so peculiarly offensive is, that it is impossible to refute it. But, assuredly, it is not easy to imagine how it can be disproved. Range, in fancy, over the whole circle of the sciences, and you will find there no place for ethics save as a branch of human history. Whatever else has been assigned it, belongs not to science, but to speculation; and is none the less speculation because carried on by professed scientists. Putting aside the inquiry into the faculties or functions of the mind, which is plainly a part of psychology, think

but for a moment of some of the questions discussed in current treatises on the "science of ethics." What is the chief end of man? Is the will free or determined? Is conscience innate or acquired? Is moral law absolute or relative? How did morality first come into existence? Is there any other good than pleasure? This is a sample, and but a sample, of the problems which moralists complacently include in what they designate ethical *science.* To questions like these answers are unhesitatingly given, even by agnostics, who know that we cannot know anything but phenomena. Manifestly the age which has witnessed the divorce of science and speculation in physics, biology, and even psychology, has not in ethics succeeded in keeping them asunder. And ethics will never rank as a positive science until, following the lead of jurisprudence and ethnology, it exorcise the spirit of speculation, and enthrone the spirit of history as it is reflected in the cognate investigations of Maine and Ihering, of Tylor, Letourneau, and McLennan.

I do not deny the possibility of a philosophy of morals, or even of law or of culture. On the contrary, I am convinced that every positive science—chemistry, physics, and mathematics equally with jurisprudence and ethics—leads up

inevitably to a πρώτη φιλοσοφία, towards which I am so far from assuming an indifference that I hold, with Kant, such indifference an impossibility to human nature, and those who profess it unconscious, instead of conscious, metaphysicians. But I am sure facts and science must precede theories and philosophy. And the facts with which the moralist has to deal seem to me, not merely more complex, but infinitely more numerous and varied, than is generally supposed. Just as philology was retarded for centuries by the dogma that Hebrew was the parent of all human languages, so ethical science is now hampered by the assumption that its subject-matter can be found in the moral consciousness of the individual alone. For that moral consciousness is but the reflex of particular social conditions, and, like them, has had a history which needs to be traced. Nor is it at any stage of its development exactly the same as another moral consciousness, under other skies, at other latitudes, in different environments, and within different civilizations. Moral phenomena may vary as dialects vary, and until those varieties are observed and compared, and their developments followed out, anything like a philosophy of morals is impossible. Ethics, as the comparative history of universal morality, is the vestibule to the temple

of moral philosophy. And whoso undergoes not purifications and offers sacrifices there must not profane with sacrilegious step the inner courts of the sanctuary.

Here, then, we have a clear distinction between what we may call ethical science and moral philosophy. The one is a branch of history, the other of speculation. They stand in the same relation as the science of geometry to the philosophy of space and the axioms. But their development has been far from analogous. Geometry has been built up without regard to the ultimate nature of space and the validity of the axioms: such speculations proved less attractive than the theorems and problems of the science. But as morals touch the most vital points of human life, man's practical interest in their origin and validity has overcome his theoretical interest in the history of their growth; and we are presented with the striking anomaly of a science still unfounded from philosophic absorption in its first principles. It is obvious, however, that a philosophy without science is as empty as theory without fact, as unconvincing as reason without the voucher of sensuous experience.

The achievements of modern science in every department of inquiry, and the influence of contemporary positivism, could not fail to react upon

ethics. But although ethics has been taken in hand by men of science, its character has not, I conceive, become scientific. With some abatement one dogmatic system has merely been exchanged for another. The old *Metaphysik der Sitten* has given place to the new *physique des mœurs;* but, though only an occasional champion —a Martineau or a Green—comes forward to defend the former, it would take a microscopic intelligence to discern wherein it is more speculative than the latter, to which the scientific world seems to be giving in its adherence. The masters of the positive sciences have, however, become the spiritual leaders of our generation; and coming to their own, their own receive them; so that in morals their unverifiable guesses are apt to pass for scientific hypotheses, or even facts, and their refutation of opposing systems, easier than to damn with faint praise, needs only consist in characterizing them as "metaphysical."

Such seems to me the present deplorable condition of ethics. Speculation, on the one hand, waning but conscious of itself, on the other, waxing but unconsciously taking itself for science. From neither movement can fruitful results be expected. The great desideratum, the sole condition of ethical progress, is the suspension of all

philosophizing until an ethical science has been constructed through a comprehensive study of the phenomena of universal morality.

But has not the scientific coryphæus of the century, it will be asked, undertaken these historical investigations and evolved from them a final philosophy of morals? Darwin certainly is the father of evolutionary ethics; and the first five chapters of his "Descent of Man" are turning out, as the late Professor Clifford was keen enough to anticipate, more pregnantly suggestive and more revolutionary than any other modern contribution to the subject of morals. Two considerations, however, suggest the incompleteness of Darwin's ethical work. In the first place, the historical method is in his hands less an independent instrument of investigation in morals than an apt means of confirming a biological hypothesis. And in the second place, it never escaped the embrace of the spirit of speculative utilitarianism. With Darwin, in fact, historical ethics was forced into the service of a foregone conclusion upon the origin of species, and a foregone conclusion upon the derivation of morality. The time has now arrived when the history of morals should be followed out for its own sake and allowed to tell its own story. But such an investigation will not

be attempted so long as scientists remain convinced of the finality of the ethical science and philosophy associated with the name of Darwin.

It is, of course, no unusual thing to find the plastic, world-moving thought of a genius crystallizing into the barren dogma of a school wherein the master's name is invoked to stem the very march of knowledge which he himself set in motion. But doubt, as the case of Darwin happily illustrates, is the condition of all intellectual progress. And the true heirs of Darwin are not the dogmatists of the schools, but the open-minded, candid, fact-revering inquirers who walk in the spirit of the master. Socrates does not lay violent hands upon his father Parmenides, because he points out the difficulties in the Eleatic doctrine of being and non-being. Nor does an investigator who ardently admires Darwin's scientific achievements, and sees in the man a very embodiment of the true scientific spirit, renounce his allegiance in criticising Darwin's treatment of the questions of morals. And nothing, I imagine, is to-day such a hinderance to a true science of ethics as the lack of a right understanding with Darwinism. To supply this want is the primary aim of the following pages, though incidentally, it is hoped, a beginning may

be made with historical ethics, and an example furnished of its value for moral philosophy. The main object, however, is, assuming the truth of Darwinian science, to make a dispassionate examination of its bearing upon morals, as well as to distinguish in Darwin's own moral theory what is fact or science from what is fancy or speculation. But this presupposes a preliminary survey of Darwinian ethics, and that of Darwinism, to the exposition of which we must now proceed.

CHAPTER II.

EVOLUTIONISM AND DARWINISM.

A generation has passed away since 1859, when Charles Darwin, then a man of fifty, published his epoch-making work on the "Origin of Species." The reception of the book by the public was an augury of the influence it was destined to exert. The first edition was exhausted almost immediately, and a second edition was out six weeks after the first. This was followed by others; and as the wave thus set a-going reached the Continent, translations of the volume soon appeared in most of the languages of Europe. The book has had a wider influence, has stirred men's thoughts and feelings more profoundly, and exercised their attention more arduously, and even painfully, than any other scientific work since 1543, when Copernicus demonstrated, to the consternation of mankind, the revolution of the earth and laid the foundation of modern astronomy. Darwin's treatise has not only become *the* classic

of contemporary science, but, touching the popular imagination, it has added a new word to our language; and we all speak of *Darwinism* much as we speak of evolution. It is true the scientist reminds us the words are not synonymous, that evolution is much broader than Darwinism, that Darwinism is only a fragment of the total evolutionary doctrine. Still there is no regulating the use of new words, and for the mass of mankind the system of Darwin is identified with the theory of evolution. Nor is this astonishing. For, though evolution was taught long before the time of Darwin, and had even been conjectured of human life, it did not come home to the hearts and bosoms of men till Darwin produced his massive and overwhelming argument to demonstrate *how* the development of all living beings from simpler forms had been brought about by means of the "survival of the fittest" in the "struggle for existence." This made it believable that man was descended from the same ancestors as the apes. And people who had remained stolidly incurious regarding the evolution of sun, and planets, and the milky way, and the rings of Saturn, and all the choir and furniture of heaven, were startled into wondering and inquisitive interest by Darwin's demonstration of our kinship with the apes.

"The proper study of mankind is man;" and Darwin for the first time compelled general attention to the doctrine of evolution by the bearing of natural selection on man's origin, kinship, and history. He first made the public acquainted with the idea of development; and the public has done him the honor of christening it *Darwinism.*

Ask, now, a representative of the great public what he means by Darwinism or evolution, and you will probably be told it is the doctrine which teaches that man and the monkeys have the same forefathers; or, should you succeed in finding a better-informed spokesman, you will be informed that Darwinism is the theory which supposes all the species of plants and animals to be the result, not of special creation, but of gradual changes in pre-existing and simpler forms. Now, it is important to observe at the outset that while both these answers contain cardinal ideas of the theory of evolution, neither touches Darwin's great original contribution to that theory. Darwin was *not* the author or first propounder of the doctrine that man and the monkeys have the same ancestors, nor yet of the doctrine that all the varieties of animal and vegetable life have been produced by the slowly accumulated modifications of one or more earlier types. It is true that Darwin ac-

cepted these traditional tenets as a part of his system, and in that way procured for them a wider circulation and a more general assent than they had ever before obtained; but Darwin never claimed, nor could he have claimed, a patent for the discovery of these ideas, nor did he assert any right of exclusive proprietorship to them. Darwin was not the author of the *theory* of development in any of its forms. It is his peculiar and indisputable merit to have discovered the *mechanism* by which (as is generally believed) development is actually brought about in our species of plants and animals. Not *that* there *is* evolution in the world, but *how* evolution *is effected* within the sphere of life, is the central point of all Darwin's demonstrations.

What, then, we must first of all ask, is the history of that theory of evolution, the mechanism of whose processes it was reserved for Darwin to discover? Like most of the fundamental conceptions of our knowledge and our science, the essential elements of the theory are as old as human reflection. It did not spring suddenly from the brain of Darwin. As evolution itself teaches that nothing in the world is brand-new—nothing exists which did not pre-exist in another form—so must this be true of the theory of evo-

lution. It, too, like the hand that wrote it out, like the brain that gave it form, has had a history reaching far back into the dim recesses of vanished and unremembered ages. Such meagre records as are preserved to us of historic times warrant our inclusion of the doctrine of evolution within the old declaration that "there is no new thing under the sun. Is there anything whereof it may be said, See, this is new? It hath been already of old time which was before us." As names and dates are often very deceptive we must here be on our guard. For the evolutionary hypothesis was not begotten of any single brain; it is the offspring of that ever-growing, ever-ripening human culture, at whose breasts successive generations of thinkers are nourished with the same vital substance. Foretold in the speculations of the ancient world, it was announced in the philosophy, poetry, and science of modern Europe, some decades before Darwin, by his spiritual foster-brothers of an earlier generation; though to Darwin undoubtedly belongs the honor of lifting it up to the full gaze of an astonished world and fixing it there as a landmark and a monument in the intellectual development of mankind.

It requires but little attention to see that the

problems underlying evolution are as old as human reflection. From the dawn of speculation the world and all that therein is has been to man an object of wonder and mystery, suggesting to him those undying questions on the origin of the cosmos, the source of life and consciousness, the course and tendency of the universe, the origin, nature, and destiny of man. But these are the problems with which our current theory of evolution has to wrestle. And though the modern evolutionist is able, owing to the enormous growth of physical science, to supply a fuller and more detailed treatment of the subject, the fundamental conceptions of his theory meet us in the most ancient cosmogonies. Thus the cardinal point of modern evolutionism—that nothing *is*, but everything is in a state of *becoming*, that nothing is fixed and immutable, but everything may be transformed into something else—you may read alike in the early speculations of a philosophical people, like the Greeks or Hindoos, and in those weird legends of our Algonquin Indians, which have been preserved from oblivion by the piety and devotion of Rand and Leland. This idea of metamorphosis, of change of one being into another, is not the only element of antique origin to be found in the modern theory of evo-

lution. Equally old is the notion of the essential unity of existence, which is so important a constituent of our current hypothesis. When an evolutionary philosopher tells us one thing can be evolved from another only because all things are at bottom the same, he cannot be accused of speculative innovation, seeing that his dogma was a musty commonplace two thousand five hundred years ago! Greek philosophy asserted, *e.g.*, that atoms were the essence of all things, that atoms were the one underlying reality whence all things had issued and whither all things tended to return. But besides these two notions—that one thing may become another, and that all things are at bottom the same—Greek speculation also furnishes us with a crude anticipation of the biological doctrine of the descent of man from some simpler organism. In the sixth century B.C. Anaximander struck out the idea that men were developed—not apes—but developed fishes, which had come on shore and thrown off their scales. And in the following century Empedocles traced the origin of man through a process much akin to Darwin's struggle for life and survival of the fittest. This vigorous thinker held that, through the action of subterranean fire, there were thrown up shapeless lumps, formed of earth and water,

which afterwards shaped themselves into the parts and organs of animals and of men. Here was an infinite chaos of heads, hands, legs, arms, eyes, and other bodily members. Under the rule of chance they formed at first all kinds of strange and monstrous combinations, which of course proved unstable; until, after a long series of unions and dissolutions, they at last, as if from exhaustion of all other modes, accidentally hit upon a happy marriage of suitable organs and members, and set up the surprise of animal organisms and self-conscious men. This is surely a Darwin-out-Darwining theory of natural selection. But we have not yet reached the last element of our evolutionary hypothesis which was anticipated by the Greeks. For, in the fourth place, the general conception of systematic growth, advance, or orderly progression, from matter to life, from the polyp to man, from the atom to the cosmos, was as familiar to Greek thought as to modern evolutionary science. The Greek natural philosophers held that the course of the world consisted in a gradual transition from the indeterminate to the determinate, so that higher and more complex forms of existence follow and depend on the lower and simpler forms. Thus the catholic genius of Aristotle

was unable to conceive the universe as other than a progression of graduated existence from inert matter at the base up through ascending forms of life till it culminated in the rational activity of man. If our agnostic scientists reject the theology of Aristotle, they will give him credit at least for his idea of cosmic development, of a world subject to evolution. And, fifthly, they will have to confess that we find in Plato an explicit profession of the evolutionary faith in the antiquity of man. Either, says Plato, the human race had no beginning at all, or had a beginning in infinitely remote ages—at a time so far back that in the interval seasons have changed, animals have been transformed, and human civilization has been many times acquired, lost, and reacquired.

Among the Greeks, then, we find these five constituent elements of the modern evolution-hypothesis: the belief in the immeasurable antiquity of man, the conception of a progressive movement in the life of nature, the notion of a survival of the fittest, and the twofold assumption that any thing or any animal may become another since all things are at bottom the same. Perhaps if we knew as much of the speculations of other ancient peoples as we know of the Greeks,

we should find similar thoughts elsewhere. We need not, however, stop to conjecture what the ancient world believed; for its civilization was submerged, in the early Christian centuries, by inundations of Goths, Vandals, Huns, and similar masses of barbarism. This social cataclysm was stemmed by the young Christian Church, which, for a millennium after, remained the one beneficent and potent agency in European civilization. Consequently, as the best intellects were everywhere in the Church, theology flourished and science was neglected. The meagre biblical account of creation was interpreted in the light—or, rather, darkness—of those first crude impressions which our senses give us of things; and it was believed that the world had not been in existence more than five or six thousand years, that the earth was the middle point of the world, and man the central object of creation, with the Church about him, hell beneath the earth, and heaven stretching beyond the utmost rim of the celestial universe, through orders of angelic hierarchies, up to the throne of God himself! At the touch of Copernicus and Galileo, however, this whole fabric collapsed. And modern science, with which the age had long been in travail, was born.

It was not, however, till another century had passed that the notion of development found a place in modern science. In 1755, Immanuel Kant, the greatest of the German philosophers, attempted to trace the evolution of the universe from a primitive chaos to its present orderly array of suns and stars, planets and satellites. The world as it is, he said, is not the immediate product of the divine creation. God has created matter, and endowed it with forces; and through the blind play of these forces the primitive chaos has been shaped, by a purely mechanical process, into central bodies with their planets, planets with their moons, and so on in ever-widening circles till the completed universe at last emerged, full of order, harmony, and beauty. Half a century later this theory of Kant's was independently established by Laplace, the greatest of French mathematicians.

The conception of evolution thus introduced by Kant was not new to the countrymen of Leibnitz. Like Kant's metaphysics and ethics, it was appropriated, developed, and extended from nature to spirit by Schelling and Hegel, through whose influence it became a constituent element in German habits of thought. Meantime, in England, it was seized upon by geologists to account

for the features and appearance of the earth's crust. The astronomers asserted the earth was originally a cooling sphere of incandescent matter. And we know it to-day as a solid core, enveloped with air and water, here tossed into corrugated mountains, and there hollowed into scarped ravines or spread out in fruitful plains and valleys. Between its primitive and its present condition there is an enormous interval, and the earlier geologists had filled it up with miraculous cataclysms and volcanic eruptions. But Lyell now came forward with his proof that the history of the earth was a process of slow development, solely through the agency of causes still in operation. The colossal results were due, not to the magnitude of the causes, but to their cumulative effects in the course of vast geological ages, which we inadequately attempt to define by millions of years. Hold to this notion of an infinite past, and the phenomena of the earth, like the phenomena of the universe, all find their place in the process of evolution.

Evolution in the universe, evolution in the earth; it now remained to discover evolution in the life of the plants and animals on the earth. And it was in this biological department that Darwin made his original contribution to the evolution-

ary movement, at the same time that his friend Lyell was carrying it into geology. We have abundantly found that Darwin did not originate the general theory of evolution. We are now to see he was not the first to propound even the more limited doctrine of the evolution of plants and animals. Fifteen years before he was born, his own grandfather, Erasmus Darwin, in England, the poet Goethe, in Germany, and Geoffrey Saint Hilaire, the French naturalist, came almost simultaneously to the conclusion that species were not separate creations and immutable, but descendants of pre-existing simpler forms and capable of undergoing modifications. From that day to this there has been a ferment of speculation on the origin of species. Early in the century it took the form of an antagonism between creation and evolution. Are our species of plants and animals primeval creations, or modified descendants of simpler species? A horse is different from a zebra; a man is different from a monkey —were they created different, or is each pair descended from a common ancestor? The evolutionary view of the question was maintained throughout the first third of our century by the eminent French naturalist, Lamarck, "whose conclusions on the subject excited much attention."

"He first did the eminent service," says Darwin, "of arousing attention to the probability of all change in the organic, as well as in the inorganic, world being the result of law, and not of miraculous interposition." He held that organic beings were modified by the action of the physical conditions of life, by the crossing of already existing forms, and by the effects of habit—of use or of disuse. It is due to constant use, *e.g.*, in browsing on the branches of trees that the neck of the giraffe has grown to such an abnormal length.

Lamarck was the true precursor of Darwin. And Darwin's "Origin of Species" was the culminating point of evolutionary biology. That work may be called the embodiment of its author's intellectual life from his twenty-second to his fiftieth year. What, now, was the theory which Darwin struck out and elaborated in these twenty-eight years? What was Darwin's original contribution to that hypothesis of evolution with which his name is now so generally associated? Well, in the first place, it was *not* the general theory of development—the theory which supposes that everything, instead of being created as it is, has reached its present precise and determinate form only after passing through an infinitude of lower stages. And, secondly, it was *not*

the particular biological application of this general doctrine, seeing that Lamarck and other naturalists had maintained before Darwin that our species of plants and animals were growths, and not independent and immutable creations. But Darwin's original contribution to the evolutionary theory *was* a demonstration of the mechanism by which the development of species had been effected. To take a specific example, he undertook to show how it happened, by what means it was brought about, that from *one* ancestral species there could have descended, in the course of thousands on thousands of generations, four species so distinct as the horse, the ass, the quagga, and the zebra.

In explaining how species originated, Darwin got most help from the study of domesticated animals and cultivated plants. The initial and even fundamental fact of his whole theory is the tendency of all living beings to vary; and the variations, which are generally minute and indefinite, are especially noticeable in our cultivated plants and domesticated animals. Thus every boy knows how much rabbits in a hutch differ from one another in the hue of their fur, the length of their ears, etc.; and anybody who has paid the least attention to dogs, horses, cows, or

other animals, or even to plants, will readily admit that each individual has peculiarities which mark it off from its fellows. This, then, is the first fact to which Darwin calls attention—individuals of the same species, descendants of the same parents, differ from one another by small, insignificant, and indefinite variations. The second fact is that these differences may be transmitted to offspring; they may be inherited. And the third fact is that man, by attending to those variations which are useful or pleasing to him, may originate breeds so diverse as the dray- and the race-horse, or the greyhound and the race-hound, or the carrier- and the tumbler-pigeon. Man creates nothing; he waits for the variations which nature gives; and then selecting those which are useful or pleasing to him, he preserves them, and in preserving accumulates them, throughout successive generations. Man's power of accumulative selection is, therefore, the key to the origin of our diverse breeds of domesticated animals and cultivated plants. And the influence of this power cannot well be overestimated. Speaking of what breeders had done for sheep, Lord Somerville observed, "It would seem as if they had chalked out upon a wall a form perfect in itself, and then had given it existence."

Take another species, and consider the numerous breeds of pigeons—the carrier, the tumbler, the runt with its long beak, the barb with its short one, the pouter with its enormous crop which it glories in inflating, the turbit with its reversed breast-feathers, the trumpeter and laugher with their peculiar coo, the fantail with its forty tail-feathers instead of fourteen. Yet these astonishingly diverse breeds are all descended from the wild rock-pigeon of the European coasts; and Darwin, who was a great pigeon-fancier and member of two of the London pigeon-clubs, found no difficulty in explaining the origin of all these varieties from man's power of selecting and accumulating the individual peculiarities which nature was always presenting. Suppose, *e.g.*, that some tamed rock-pigeons, ages ago, happened to have more than fourteen tail-feathers. A pigeon-fancier is struck with the peculiarity, and preserves these individuals. Their descendants may have sixteen tail-feathers, or perhaps more. In the course of countless generations, pigeons may, as a result of man's constant selection, be produced with twenty or thirty tail-feathers, till at last the fantail appears with its full quota of forty.

Have we not here some light on our question

of the origin of species? We have seen that the various races of our domesticated animals and cultivated plants have been formed by man. Nature presents individual differences; man preserves those beings whose peculiar modifications are useful or pleasing to him; these peculiarities are transmitted to offspring, and in transmission through successive generations are accumulated, till forms arise which we call varieties, but which in fact are scarcely distinguishable from genuine species. Domestic races are thus made by man through his power of accumulative selection. But the species of animals and plants in a state of nature cannot be thus produced by man. How, then, do they originate? Is there any agency analogous to the selection practised by man?

Man forms domestic races, which are "incipient species," by selecting certain natural variations in organisms and accumulating them by transmission through successive generations. In the absence of man, could the modifications which are constantly appearing in organic beings be preserved and accumulated? Darwin affirms they could on one condition—that they are beneficial or directly useful to the creature modified. The demonstration of that process constitutes at once Darwin's solution of the origin of species

and his original contribution to the hypothesis of evolution. It was the spark which kindled into life the long-prepared materials for biological science. The thought of natural selection, of a universal struggle for life and survival of the fittest, was the soul with which Darwin informed the scientific body fashioned by his predecessors. In that thought, and that alone, consists, as Haeckel says, the essential service which Darwin rendered to modern science.

But what in particular is the nature of this new formative conception? and how did it originate in Darwin's mind? The latter question Darwin himself enables us to answer. After he had attained, through a study of domestic productions, a just conception of the power of selection, it dawned upon him, "on reading Malthus 'On Population,' that natural selection was the inevitable result of the rapid increase of all organic beings." And he justly describes his own cardinal principle as "the doctrine of Malthus applied with manifold force to the whole animal and vegetable kingdoms." It was with man that Malthus, an English reactionary against the social optimism of the school of Rousseau, was primarily, if not exclusively, concerned. He saw a barrier set to the realization of their dream of the happi-

ness of human society in the constant tendency of population to multiply faster than the means of subsistence. While human beings tend to increase in a geometrical ratio, food can at best be increased only in an arithmetical ratio. The inevitable result is starvation. And starvation is the ultimate check to population. But although the ultimate, it is not the immediate check; since, in ordinary circumstances, the unrestrained increase of human beings is prevented by prudential considerations with regard to marriage, by brutal and revolting practices, and by such ruthless destroyers as disease, war, pestilence, and the whole train of human miseries.

Such is the principle of Malthus. It has become a constituent part of political economy, giving its tone, one might almost say, to the treatise of Mill. And it has become the germinant idea of biology, accounting, in the hands of Darwin, for the formation of varieties and the origin of species of plants and animals in a state of nature.

Let us now endeavor to follow Darwin's account of the process.

The first moment is the excessive fecundity of nature, which Darwin was enabled to realize from his observation of the teeming, self-strangling life of the forests of Brazil. But to take a less favor-

able case, consider the elephant, which is the slowest breeder of all known animals. Yet, at the minimum rate of increase, a single pair would "after a period of from seven hundred and forty to seven hundred and fifty years" have "nearly nineteen million" living descendants. "Even slow-breeding man has doubled in twenty-five years, and, at this rate, in less than a thousand years there would literally not be standing-room for his progeny." Or, consider the case of plants. There is no plant which does not produce more than two seeds; yet, merely at that rate of increase, an annual plant would, in the course of twenty years, produce a million plants. Without adding examples, we may now realize Darwin's general statement "that *every organic being* naturally increases at so high a rate that, if not destroyed, the earth would soon be covered by the progeny of a single pair." Hence, as infinitely more individual animals and plants are produced than can possibly survive, nature must be the scene of universal competition. "There must in every case be a struggle for existence, either one individual with another of the same species, or with the individuals of distinct species, or with the physical conditions of life." Existence is an appalling tragedy, with the universe for its scene,

and for time the duration of geological ages; its characters are made up of that infinitude of individuals which constitute the organic world; but so full of horrors is the drama that most of the actors are cut down at their first entrance upon the stage, while those who escape are doomed to a never-ending struggle for life, in which only the strongest and the best favored have any chance of reaching the second scene, that opens, like the first, with mutual conflict and all but universal extermination. Now, in this struggle of all against all, and of each with the conditions of life, it is easy to see that the struggle will generally be most severe between closely related organisms, between species of the same genus, or individuals and varieties of the same species, owing, of course, to the similarity of their structure, constitution, and habits. The fish does not compete with the bird; and of birds, swallow competes against swallow, and robin against robin. So complex, however, is the web of relations by which all organic beings of the same country are bound together that helps or checks to the increase of a species frequently come from the most distant and unexpected sources. Who would have suspected that the growth of red clover was largely dependent on cats? Yet, as this flower can be fer-

tilized only by the humble-bee, and humble-bees flourish only where mice do not destroy their combs and nests, and mice are destroyed by cats, we can see that without cats there would be no combs and nests, no bees, and therefore no fertilization of clover.

Directly or indirectly, then, the animal and vegetable kingdoms are, owing to the enormous rate at which living beings tend to increase, the scene of universal competition and struggle for existence, in which the great majority must inevitably perish. We have seen, however, that all living beings are subject to slight modifications; and taking account of the infinite complexity of the relations of all organic beings to one another, and to their conditions of life, it would be strange if some of these modifications were not more beneficial than others. In that case the individuals that have happened to undergo this profitable variation would have an advantage over their rivals. They would, accordingly, be victorious in the struggle for life; and transmitting their beneficial peculiarities to descendants, these would enjoy a similar advantage. Such favored forms would spread and conquer, while their rivals would first decline and then become utterly extinct. This is what Darwin means by natural selection,

or survival of the fittest, in the struggle for existence.

See, now, the result. As man forms domestic races by selecting and preserving through successive generations those individuals whose peculiar modifications are useful or pleasing *to him*, so, in the struggle for life, individuals with modifications useful *to themselves* are preserved, while their less-favored rivals are killed out; and in transmitting to their offspring the peculiarities which enabled them to survive, they begin the formation of a distinct variety, which, in the lapse of geological ages, may emerge as a new species. Man forms species through selective breeding, the result of his own choice; nature forms species from that selective breeding which is the necessary consequence of the extermination of rivals and survival of the fittest in the struggle for existence.

This, then, is Darwin's theory of the origin of species. Assuming that species were not special creations, fixed and immutable, Darwin shows how all the species of any one genus have been developed from a single stock by means of natural selection, or survival of the fittest, in the struggle for life. The horse, the ass, the quagga, and the zebra are not originally distinct species, but descendants of a common ancestor, modified

through natural selection. And as other species may, in the same way, be reduced to a single primitive form, it is clear that the number of original species will be exceedingly limited. Indeed, some naturalists hold that all the organic beings which have ever lived on this earth may be descended from some *one* primordial form. And even the cautious Darwin maintains that all "animals are descended from at most only four or five progenitors, and plants from an equal or lesser number."

In this genealogical table of all living beings man cannot be separated from the apes. Both are modified descendants of the same progenitors. This deduction from Darwin's theory of natural selection, now, is confirmed by a comparison of the two species. In the *first* place, their structure is not only on the same fundamental plan, but presents a complete correspondence of parts. If you compare the gorilla with man, you will find, it is true, that its brain-case is smaller, its trunk larger, its lower limbs shorter, its upper limbs longer, in proportion, than those of man; but in all these respects the other apes depart still more widely from the gorilla. And whatever organ or system of organs be selected for comparison, whether the vertebral column, the

skull, the teeth, the hand, the foot, or even the brain, it has been established by Huxley, after the most careful determination of form and weight and number, that in every visible character "the structural differences which separate man from the gorilla and chimpanzee are not so great as those which separate the gorilla from the lower apes." *Secondly*, the minute structure and composition of the tissues and blood of monkeys is closely similar to our own. They are liable to our diseases, and have been known to suffer from catarrh, consumption, apoplexy, fever, etc. Their nervous system, too, is similarly affected. They often take to tea, coffee, tobacco, and spirituous liquors. They have been known to get drunk; and on the following morning they have exhibited the perfectly human phenomenon of *Katzenjammer*, with its complication of headache, doleful countenance, and disgust with beer or wine, but relish for the juice of lemons. An American monkey, we are told, after once getting drunk on brandy, would never taste it again. Shall we call this the simian stage of American teetotalism? *Thirdly*, man possesses in a rudimentary condition organs or parts which are regularly present in some of the lower animals. These now useless parts and organs can be ex-

plained only on the assumption that man is descended from some lower animal in which these rudiments were useful. But in monkeys many of the same parts are in a rudimentary condition; hence, monkeys will have a genealogy similar to man's. And, *fourthly*, embryologists have shown that in the early stages of its existence the young human being goes through the same development as the young ape, and in the later stage, if marked differences appear, the human being is not more unlike the dog than the ape is.

Man, then, must be ranked in the same order with the apes. The whole simian stock, including man, has sprung from the same progenitors. And the structure and condition of this common ancestor may even now be dimly discerned by anyone who can interpret the human and simian characteristics we have just mentioned. Such an observer would discover that the early progenitor of man was a hairy, tailed quadruped, probably arboreal in his habits, and a denizen of some warm, forest-clad land in the Old World. But behind *this* Adam even there is a pre-Adamite. If we look still farther back in the dim recesses of time, we shall see the genealogical line running through a long series of diversified forms of marsupial, of reptile, of fish, to an ultimate

ancestral animal—a fish-like creature, which united both sexes in itself, and in which the lungs existed as a float and the heart as a simple pulsating vessel. No paradise was the birthplace of this first parent, but the shore of a restless sea, whose changes by day and by month begot in him that periodicity of function which, like an echo over eternities, to this day survives in his latest human descendant.

This, then, is Darwin's new hypothesis in natural history. I have had to limit myself to the merest outline. But I must add, before passing on, that Darwin develops his theory with a fecundity of intellectual resources a wealth of observations and experiments, a skill in the grouping of evidence, and, more than all, with an extreme of caution in speculation and an extreme of candor in weighing the arguments of opponents, which no one can fail to recognize as marvellous in itself and even honorable to our common humanity. Hasty, however, as our sketch has been, it will now, I think, be clear what the essential moment of the Darwinian theory really is Were we asked to define it, we should say, Darwinism is the application of the law of natural selection—*i.e.*, struggle for life and survival of the fittest—to account for the development of life and the

origin of species throughout the whole organic world. It is only a part of the general theory of evolution. For evolutionism is that conception of the universe which regards it as the result, not of an act, but of a process, which holds that it is not now what it was in the beginning, but has become what it is through a series of slow and gradual changes, whereby growth, development, or progress has been effected, and all purely by the action of causes immanent in the universe. This evolutionism is as old as human thought, and it had explained before Darwin the process of development in the inorganic world. Further, it had asserted development as a law of life and originator of species; but causes adequate to such a result it had not discovered. It was this lack that Darwinism supplied with natural selection.

It is not the province of the present investigation to inquire into the truth of evolutionism and of Darwinism. Assuming them true, we have to ask, What follows? But before raising that question I may be allowed to observe, as a simple historical fact, that no one nowadays seems to doubt the validity of the general theory of evolution. That the genesis of the cosmos and of the earth which we inhabit is not explained by a single

creative act, but implies a process extending over the immensity of geological ages, is admitted by everyone at all conversant with the general results of modern astronomy and geology. And "so far as the animal world is concerned," we have the high authority of Professor Huxley for the assurance that "evolution is no longer a speculation, but a statement of historical fact." Observation has done for the natural sciences precisely the reverse of what criticism has done for the Homeric poems—it has turned a number of separate stories into a continuous epic, an epic which traces the world-events from that homogeneous chaos "in the beginning" to the definite, coherent, heterogeneous cosmos of to-day. While, however, evolutionism is generally accepted in some form or other, theistic or naturalistic, rationalistic or agnostic (in itself it is absolutely neutral between these metaphysical theories), there is not the same unanimity of verdict, even in the scientific world, about Darwinism. There is no doubt, I think, that the vast majority of what Professor Huxley calls the "hodmen of science" accept Darwin's theory of natural selection, both in itself and in Darwin's extensive application of it. But it is yet a significant fact that leaders, perhaps *the* leaders, of the scientific world give only a very

qualified adherence to Darwin's essential doctrine. Helmholtz asserts that, while natural selection may have been competent to produce varieties within the same species, and even many so-called species, the question of the descent of species in general, and man in particular, is at present determined rather by the preconceptions of individual investigators than by the facts themselves. And Virchow, after claiming for experts alone the final adjudication of the question (and this claim every dispassionate thinker will concede), goes on to observe that at the present time there is no actual warrant for taking the step from the *theory* of descent (which, let me say, was as fascinating for Kant as for Darwin) to the *fact* of descent, though, on the other hand, there is no ground for maintaining that it is either impossible or irrational. More important still is the testimony of Alfred Russell Wallace, the joint discoverer with Darwin of the theory of natural selection. And yet it is Wallace who tells us that "natural selection could only have endowed the savage with a brain a little superior to that of an ape." Lastly, Darwin's friend and defender, Professor Huxley, tempering his well-founded admiration with equally well-founded scepticism, reminds us in no uncertain tones that our "acceptance of the

Darwinian hypothesis must be provisional so long as one link in the chain of evidence is wanting; and so long as all the animals and plants certainly produced by selective breeding from a common stock are fertile, and their progeny are fertile with one another, that link will be wanting. For so long selective breeding will not be proved to be competent to do all that is required of it to produce natural species." So that "it yet remains to be seen," as he tersely puts it, in a later work, "how far natural selection suffices for the production of species."

According to most eminent authorities, then, the case stands thus: Biology has demonstrated, as matter of historic fact, that life first appeared on our globe in plant-form, that it next emerged in the lower animals, and thence passing by innumerable gradations through beings of increasing complexity of organ and function it culminated in man. There is, therefore, evolution in the organic world, as science has already traced it in the inorganic. But the cause of this evolutionary movement in the history of organisms has not as yet been established; though it is probable Darwin's natural selection is a part of the cause. In other words, we know *that* there has been evolution, but we are not yet certain *how* it has been

brought about; we know, as Dr. Martineau puts it, the *when* of evolution, but not the *whence.*

That the missing evidence in the evolutionary theory of causation may yet be supplied, everyone who has felt the divine impulse to science will ardently hope, as the more enthusiastic, indeed, confidently predict. In fact, the belief in the ultimate perfectibility, if not in the present perfection, of the doctrine has become a part of the scientific fanaticism with which our age matches the religious fanaticism of the sixteenth century. And so it happens that the majority of readers are scarcely aware of the hitches in the Darwinian argument any more than they were formerly aware of the intellectual difficulties in the way of many accepted theological dogmas. For all such minds, now, any inquiry into the ethical significance of Darwinism will be without weight unless the theory in its entirety be accepted as initial truth. I propose, therefore, without further ado, to assume, for argument's sake, that the Darwinian hypothesis has been completely established; and I would, then, invite Darwinists to join me in an impartial attempt to interpret that hypothesis, and to determine its bearings upon the problems of morals. Whether there actually exists, as the late George Henry Lewes imagined, a wide-spread

fear and dread of science, I shall not pretend to determine; but if it exists, it is certainly an anachronism. For the scientist is the veritable ruler of the modern world. And, for my own part, I can understand no feeling but that of admiration and loyalty towards the man who, from no other motive than the simple love of truth, gives his days and nights for weary years to spelling out that mystic language which God has illuminated by the central fires of the world, traced in the orbits of planets, graven upon the strata of the earth's crust, and sent echoing round the great globe in the rhythmic pulse-beat of all organic life. Such men were Kepler, Faraday, Agassiz, and Darwin. Thanks to these, and such as these, we can to-day read a little in nature's book of infinite secrecy. The gradual development of all organic and inorganic existence they seem already to have completely spelled out. How that development was effected in the domain of life is still a mystery; but for argument's sake, I repeat, we are ready to let Darwin's hypothesis of "Natural Selection" stand for the yet undeciphered hieroglyphic.

CHAPTER III.

THE PHILOSOPHICAL INTERPRETATION OF THE DARWINIAN HYPOTHESIS.

The function of natural selection in the origination of species of plants and animals has, I trust, been sufficiently described and illustrated in the preceding chapter. We must now go on to inquire into the philosophical significance of the doctrine. And, obviously, the main point can be no other than a precise determination of what it really is that natural selection explains, as well as of what is left unexplained by it, in the origin of species of organic beings.

Scientific explanation consists in the assignment of a phenomenon to its causes. These causes must be known natural agencies. It may well be, indeed, that speculative reason is unable to stop at such causes, involving, as they do, an inconceivable regression *in infinitum;* but it is solely of these secondary causes that science takes account. And when this limitation of its province is considered, it must be conceded that science is clearly

in the right in refusing to recognize supernatural activity as a relevant explanation of natural phenomena.

But it was a dogma of this kind which Darwin found in the biology of his day regarding the origin of species. He substituted for it a scientific hypothesis of the development of life by means of purely natural causes. He did not deny the ultimate creative or preservative agency of God, with which as a biologist he was not called upon to deal; nor is his theory at bottom a contradiction of the essence of that theological doctrine, for the two belong to totally different orders of interpretation. With complete neutrality towards such speculative matters, he asserted merely that the manifestation of life on our globe was through a process of evolution, of which natural selection was the proximate cause, be the ultimate cause what it may. Whether this hypothesis be true or not, it is at least an attempt to solve the scientific problem which, on the other hand, is simply overleaped by the transcendental doctrine of divine creation. It is the only kind of explanation that science can consider legitimate.

The phenomenon to be accounted for—the origin of species—is by Darwin referred to *veræ*

causæ, to agencies actually known to be in operation. The excessive fecundity of all organic beings, the limited means of subsistence, the inevitable struggle for life, the advantage accruing, in this struggle, to some individuals in consequence of slight modifications in organ or function, structure or habit, such as nature in liberal variety is perennially turning up, the preservation of these favored forms, and the consolidation and accumulation, through transmission to successive generations, of their beneficial peculiarities until first varieties and then species are produced—these are facts which every observer may verify for himself, and which, it is almost universally conceded, account for the origin of many, if not of all, organic species. And for the scientist who finds no species too marked for genesis through this common process the problem has been completely solved.

But where science ends philosophy begins. The one is concerned with the discovery of processes, the other has to analyze the ultimates—realities or conceptions, being or thought—which the processes everywhere involve. While science, accordingly, sees no difference between the various links of the causal chain with which Darwin draws out the development of life, philosophy

fixes at once upon a fundamental contrast between the initial variations and the subsequent means of their preservation. It regards the former as infinitely more significant than the latter. For the variations are the ultimate material out of which species are built up; and though the manner of their consolidation is an important problem for science, philosophy is interested only in the *what?* and *whence?* of the variations themselves. Or, otherwise expressed, every new species being the sum of a series of variations, philosophy is concerned with the units, science with the mode of their addition. And this mode it is which Darwin has unfolded in his theory of natural selection, or survival of the fittest. There have been objections to the theory, especially to the somewhat startling assumption that the results of man's purposive selection in breeding could be attained—and that, too, on a much larger scale—by the blind and purposeless operations of nature; but granting all that the hypothesis requires of us, we are still in presence of the fact that natural selection, or survival of the fittest, can accomplish nothing until it is supplied with material for "selection," until there has appeared upon the field an antecedent "fittest"—a fittest organ, function, habit, instinct, constitution, or entire organism. Natu-

ral selection produces nothing; it only culls from what is already in existence. The survival of the fittest is an eliminative, not an originative, process. And yet it is the explication of this apparently subsidiary process that constitutes Darwinism. The fact of variations in organic beings having been demonstrated from the experience of breeders, the sphinx of science was the problem of their accumulation into specific characters. It was not the business of biology to consider what the fact of variations implied. That falls to philosophy, whose function it is to examine the starting-points and first principles with which the various sciences uncritically set about their specific task.

The survival of the fittest, I repeat, does not explain the arrival of the fittest. Natural selection is a term connoting the fact that of the innumerable variations occurring in organisms only the most beneficial are preserved, but it indicates nothing concerning the origin or nature of these variations. As in them, however, is *en*veloped all that is subsequently *de*veloped, they form the sole ground for philosophizing in connection with Darwinian science.

Fortunately, too, Darwin and his followers have not left us in utter darkness with regard to the rise of these modifications, which, as we

have just said, constitute the material for natural selection. In the earlier editions of the "Origin of Species" much influence was ascribed to the external conditions of life, which Geoffrey Saint Hilaire, a generation before, had declared the principal cause of change. But apart from the environment, Darwin always maintained, with Lamarck, that habit, or use and disuse, played a considerable part in the modification of the constitution and structure. Thus if, as is the case, the bones of the wing of the domestic duck weigh less and the bones of the leg more, in proportion to the whole skeleton, than do the same bones in the wild duck, the change may be safely attributed, he tells us, to the domestic duck flying much less and walking more than its wild parents. Lastly, there are modifications which emerge as concomitants or indirect effects of other modifications. The whole organism is so conjoined and knitted together during its growth and development, that when slight variations occur and are accumulated in one part, other parts become modified, too. A curious instance of this correlated variation, not in process, but in complete realization, is presented by the uniform conjunction of deafness with blue eyes in perfectly white cats.

But however much be ascribed to the influence

of external conditions, of habit, and of correlation, Darwin found these factors incompetent to produce the variations presupposed for natural selection in his theory of the origin of species. Accordingly, while they retain their place in the later editions of his work, they are there overshadowed by a more potent cause of modification, which is nothing less than a force inherent in the organism itself—"an innate tendency to new variations" or a "spontaneous variability," as it is indifferently called. The environment is, I have said, still recognized as one of the factors of change; but since it is shown that similar varieties are produced from the same species in different environments, and dissimilar varieties in the same environment, it is established that the nature of the organism is a much more important factor than the nature of the external conditions of life. "We clearly see," says Darwin, "that the nature of the conditions is of subordinate importance, in comparison with the nature of the organism, in determining each particular form of variation; perhaps of not more importance than the nature of the spark, by which a mass of combustible matter is ignited, has in determining the nature of the flames." And if he objects to Nägeli's or Mivart's formulation of an innate

tendency towards progressive and more perfect development, it is only because the phrase seemed to suggest an "internal force beyond the tendency to ordinary variability," not that he did not agree with them in holding to some kind of an "inherent tendency to vary."

This, then, is our first determination regarding the variations which supply material for natural selection to work upon. They originate, we know not how, in the nature of the organism. Nor would the state of the case be essentially altered if it were demonstrated, in opposition to Darwin, that every organic modification was occasioned by some external stimulus. For the change thus set up in the organism in response to the foreign excitation would obviously derive its character from the constitution of the organism, just as, to use Darwin's own example, the peculiarity of a flame is due to the constitution of the combustible materials, and not to the igniting spark.

So much of the origin of the variations. With regard to their nature, it may be either definite or indefinite. That is to say, the offspring of individuals exposed to given conditions during several generations may be modified in a similar or a dissimilar manner. Indefinite variability is the general rule, according to Darwin, who, in

fact, takes account of no other in his theory of the origin of species. He seems to conceive of the organization as absolutely plastic, in unstable equilibrium, and only apparently at rest at a point radiating infinite directions for further movement. The variations, being altogether indefinite, offer themselves to natural selection for any line of development, but not for any particular line. And Darwin was accordingly supposed to have substituted chance for design, a fortuitous evolution for a purposive creation. It turns out, however, that his assertion of indefinite variability was premature, and that in any case it has no necessary connection with natural selection, which, according to the latest statement of Professor Huxley, would operate equally well "if variability is definite, and is determined in certain directions rather than in others, by conditions inherent in that which varies." And the advance in doctrine is still more strikingly illustrated when Professor Huxley goes on to say, "it is quite conceivable that every species tends to produce varieties of a limited number and kind, and that the effect of natural selection is to favor the development of some of these, while it opposes the development of others along their predetermined line of modification." This limita-

tion of the number of variations and the predetermination of their character are conceptions foreign, I believe, to Darwin's habitual mode of thought, but they may now be considered tenets of the school; and Professor Asa Gray, adopting categorically the suggestion of Professor Huxley, declares, "The facts, so far as I can judge, do not support the assumption of every-sided and indifferent variations."

The nature and the origin of the modifications being described, we have next to fix attention upon the process of their accumulation into specific characters. It is the exhibition of this process that constitutes the peculiar glory of Darwinian science. And to science, certainly, as the register of nature's operations, the whole subject of natural selection properly belongs. But when the designation for a purely natural process has, through the suggestions of metaphor and the use of capital letters, come to stand for something more than a process, and, from constant association with an extraneous metaphysics, has acquired the potency of a conjurer's formula in the philosophy of life, mind, and conscience, it is high time to set about the perennial problem of laying the dust raised by dogmatic metaphysicians, who are all the more insidious when they disown their

vocation and come to us in the name of positive science with the prestige that science gives. Darwinism, like every great principle when first discovered, intoxicated and unbalanced its devotees; with license unrestrained, it has been applied to fundamental problems of the natural and the spiritual world. But the ultimate mysteries of existence forever baffle, as they ever fascinate, the scientific understanding of man, and an age of confident construction is always followed by an avenging age of destructive criticism; so that the high-towering, wide-extending edifice under which but yesterday intellectual mankind reposed in peace is seen to-morrow as a conventional structure, whose former magnitude and splendor arose solely from an optical illusion distorting the perspective and true relations of things. It is with such speculations as with the pandemonic councillors:

> "They but now who seem'd
> In bigness to surpass Earth's giant sons,
> Now less than smallest dwarfs, in narrow room
> Throng numberless, like that Pygmean race
> Beyond the Indian mount, or farey elves."

In the march of mind, if the discovery of new theories is indispensable, equally so is the reduction of the monstrous shapes which they too soon

assume to normal proportions conformable to reality. And pending the morrow of the Darwinian and post-Darwinian speculations, we may to-day examine what natural selection is and what it is not, what it can do and what it cannot do.

To maintain that Darwin, who has taught us all we know about the subject, gives an incorrect account of natural selection would of course be paradoxical. Nor, in the absence of new light from scientific discoveries, is anyone likely to hazard such a judgment. Nevertheless, it will be found that whoever is resolute to see clearly the fact which Darwin means to indicate by the term "natural selection" must look beneath the phraseology in which it is described, else the essence of the matter will be missed amid the distracting associations of highly figurative language.

Not, of course, that metaphors are unintelligible, or even undesirable. Only the recollection of the warring creeds that have sprung from biblical imagery, and of the opposing systems of philosophy that have turned on the comparison of the mind to a waxen tablet, suggests the necessity of looking away from a metaphorical expression like natural selection to the actual fact which it was

intended to denote. Now, that fact, in utter nakedness, is nothing more than the survival, in the struggle for life, of an individual that has somehow undergone modifications useful to it under the actual conditions of existence. Or, in Darwin's own words, "This preservation of favorable individual differences and variations, and the destruction of those which are injurious, I have called Natural Selection, or the Survival of the Fittest." The process, therefore, does not touch the origin of the variations, or even the accumulation of them. Natural selection produces nothing, either at the beginning or in the progress of the development; it means only that *when the variations have somehow appeared* the most advantageous are preserved, and that *when these favored forms have been somehow propagated, and thereby somehow consolidated,* the most favored again survive in the struggle. Nature originates the modifications, nature propagates them, nature accumulates them through propagagation; but how all this is done is a mystery on which science throws no light, and the personification of nature serves only to disguise our real ignorance. On the other hand, we can understand from the well-known fact of the increase of life beyond the means of subsistence that,

given the creations, the transmissions, the accumulations, the worst favored must perish and only the fittest survive; and this fact it is—this single ray of light athwart a path of darkness unpenetrated — that Darwin designates natural selection.

Now, the personification of nature is quite legitimate, and often unavoidable. But when a mere event of nature, like the one we have just described, comes to be invested with a title so suggestive of volitional attributes as "Natural Selection" is, the imagination cannot fail to run riot with the understanding, and the mind is apt to become the slave of what Bacon calls the *idola fori.* It would indeed be in itself a thankless task to point out the warping influence of metaphorical language on the mind of a great investigator like Darwin, but when his lapses (which may do no harm in science) are made the grounds of a metaphysical and ethical philosophy, the task, however ungrateful, must be undertaken.

The term natural selection is borrowed by analogy from that purposive selection practised by man in the rearing of domesticated animals and cultivated plants. We have already seen that breeders form varieties that pass for "incipient

species." This result is due to the accumulation in one direction, during many generations, of slight differences, differences that may be wholly inappreciable to the uneducated eye and touch. "The key," says Darwin, "is man's power of accumulative selection; nature gives successive variations; man adds them up in certain directions useful to him." Now, this mode of language (of which I have hitherto availed myself) is not capable of misinterpretation in relation to man; for everybody knows it is only by metaphor that man can be said to have the power of accumulating variations or adding them up. It is very manifest that man can do nothing towards the result except leave the varieties that please him free to breed together. As it is nature that gives the modifications, so it is nature that consolidates them; man's power is limited to selecting from the materials given by nature that on which he wishes her further to operate. But that simple intervention does not explain the accumulation any more than the origination of variations; and, for the rest, we have to confess that "the laws governing inheritance are for the most part unknown." The breeder's conscious selection, then, is not the cause, but at most the negative condition, of the origin of domestic races.

Now, in organic beings in a state of nature the struggle for life effects what man's purposive selection effects for domesticated animals; by removing other forms it leaves only those with certain peculiar modifications free to breed together. It is true that in the one case these modifications are such as are pleasing or useful to man; in the other they are such as are serviceable to the individual in its competition with rivals. "Man selects only for his own good; nature only for that of the being which she tends." But the main point is that, just as domestic varieties arise from the selective breeding practised by man, natural varieties, which are "incipient species," arise from that selective breeding due to the killing out of competing, but less-favored, forms in the struggle for existence. And this natural selection, Darwin holds, is as much superior to human selection as the works of nature are to art. "As man," he tells us in a striking passage, "can produce a great result with his domestic animals and plants by adding up in any given direction individual differences, so could natural selection, but far more easily, from having incomparably longer time for action."

It has been objected that this attribution of superior potency to natural selection, in compari-

son with the purposive selection of man, involves the conception of nature as an intelligent, active being. Nature seems to do so much, it is urged, only because you have personified her; use unmetaphorical language, and you will not make it credible that blind natural processes can ever attain the ends realized by human design. But this dogmatism cannot be established. For it is certainly conceivable that that selective breeding by which man works all his results might be brought about without the intervention of man. All that is required is that organic beings which have undergone some modification shall be allowed to propagate it, say, to breed together; and this would result as inevitably from the extermination of all competing forms as from the exclusion of them practised by man. But extermination does take place when variations occur in any individual which give it an advantage over its rivals in the struggle for life; and since variations useful to man do actually occur in organic beings, it would be a most extraordinary fact if none occurred useful to the beings themselves, especially when we consider the vast possibilities for such useful variations contained in the infinitely complex relations of all organic beings to one another and to their environment. Assum-

ing, then, that such advantageous modifications somehow arise, the beings thus characterized will have the best chance of being preserved; and these serviceable peculiarities will be propagated and, in successive generations, consolidated until there emerge at last varieties, as strongly, or more strongly marked than our domestic races. But this preservation, or survival of the fittest, is what Darwin calls natural selection. And it must now be evident that we have the best grounds for comparing its function in the development of species with man's function in the formation of domestic races.

Not the likening of nature's work to man's, but the assignment to both natural and human selection of results which they are incompetent to produce, is the real valid objection to Darwin's presentation of his theory. We have already seen that man can no more accumulate variations than he can produce them; accumulation is simply a continuous production. And yet, while Darwin concedes to Hooker and Asa Gray that man "can neither originate varieties nor prevent their occurrence," it is added—and that, too, in passing from human to natural selection—that "he can only preserve and accumulate such as do occur." *Only accumulate!* And then, of course,

it is assumed that natural selection accumulates, too. "It may metaphorically be said that natural selection is daily and hourly scrutinizing, throughout the world, the slightest variations; rejecting those that are bad, preserving *and adding up* all that are good." And since natural selection is the name of an event that follows from physical causes, the reader gets the impression that the origin of species has at last been referred to a system of purely natural causation. But the true state of the case is very different. No cause has been discovered for the origin of those variations which, through inheritance, are accumulated into specific characters; and the theist who formerly believed in a supernatural cause may hold to it still, if he only substitute gradual for sudden creation. Do you say we need not postulate a transcendent cause? Possibly not; but there is nothing in Darwinism, in the theory of natural selection, to take the function assigned to that supernatural power. If you refer the origination and accumulation of variations to nature, it is not the nature known to science, nature as a complex of phenomena governed by physical laws, but the poet's vision:

"Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man;
A motion and a spirit that impels
All thinking things, all objects of all thought,
And rolls through all things."

But this conception of nature, however true, is foreign to that system of efficient causes with which alone scientific explanation is concerned. If the scientist, in poetic exaltation, feels with Pope that "God and nature only are the same," or with Goethe that "nature is the living garment of God," he may speak of the variations out of which specific characters are built up as having natural causes, but he then uses the word "natural" much in the same sense as ordinary people attach to "supernatural." But the naturalist who recognizes the limits of science will have to confess that variations come in organisms we know not whence, and are accumulated we know not how (though we *name* the processes variability and inheritance), and that natural selection is only a designation for an event as simple as this—that beings with the most serviceable variations survive in the struggle for existence. Natural selection is not a power, scarcely even a

process, but the result of a process—namely, of that sifting of forms effected through the all-testing combat for life.

If this analysis of the fundamental conceptions of the Darwinian theory be correct, much less is really explained by that theory than its advocates have been in the habit of supposing. In spite of its prolific application to so many fields of inquiry, one may still question whether in its native province of biology the account given of the origin of species is not ultimately as supernatural as the dogma which it displaced. It was rightly urged against the latter that creation was not a scientific conception, that explanation consisted in correlating a phenomenon with other phenomena and assigning it a place in the tissue of our experience, and therefore that the reference of species to a Creator was a mode of accounting for them with which science could not be content. But does the Darwinian theory enable us to rest in purely natural causation? It tells us that species are the strongly marked varieties that survive in the struggle for life, and that these varieties are formed by the consolidation of modifications that spontaneously arise in organisms. Here everything is assumed with the primitive organisms and their innate tendency to vary.

Has not the mystery that shrouded the origin of species been removed simply by the introduction of a new mystery—the wonder of an organism so constituted that it throws off progressive modifications as materials for new species? That science may ultimately show such variability to be a characteristic of organisms I do not assert or deny. My only contention is that that aspect of the problem of the origin of species which led men to refer them to a hyperphysical agency would not thereby be removed; it would still reappear in the question, Whence those germinal organisms with their wonderful capabilities of differentiating into species? And to this question there is no satisfactory answer within the province of natural or physical causation. So that ultimately it comes to this—the gradual development of species is one mode of conceiving the action of supernatural causality, the sudden formation of them is another. Darwinism is an assertion that the former mode has actually been followed, not a denial of the supernatural ground which both processes presuppose. If the "Origin of Species" opens with the thesis that species are not independent and immutable creations, but variable descendants of common ancestral forms, it closes with the *credo* that it

was "by the Creator" that life with all its potencies was "originally breathed" into these ultimate types. Between this closing and that opening declaration stands the principle of natural selection, which implies that, of all the varieties produced by the spontaneous evolutions of the descendants of those divinely created types, only the fittest or most favored survive. But even this sifting process has, ultimately regarded, a supernatural ground. It depends upon the existence of germinal organisms, their growth with reproduction, inheritance, variability, and capacity for increase beyond the means of subsistence—all of which must ultimately be attributed to "the Creator," who, according to Darwin, breathed "life *with its several powers*" into the primitive forms.

To evolutionary science as thus unfolded by Darwin, or to evolutionary science pure and simple without any such theistic reference, it is not competent to philosophy to offer any objection. Biology is clearly within its own province when it follows the history of organisms and delineates the processes or steps by which life has been evolved. To this scientific investigation Darwinism makes a twofold contribution. It established, from actual experiments with animals under do-

mestication, the modifiability of organisms, and thus grounded the presumption that species had been gradually formed. And, in the second place, under the guidance of Malthusianism it showed that the world is inhabited by its present denizens, and not by others, in consequence of the superiority of their modifications over those of their rivals in the general struggle for existence. This is the essential content of Darwinism. And it is manifestly consistent with *any* philosophy, empirical or rational, spiritualistic or materialistic, theistic or atheistic.

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Nevertheless, I think every reader of the "Origin of Species" would maintain that it seems to explain something more than the natural processes just indicated, and that, further, it is so far from indifferent to philosophy that it draws much of its inspiration from a definite speculative system—a system, too, essentially opposed to that theism which the author occasionally appropriates. And there can be no doubt about the fact that most of the evolutionists have identified the new doctrine with a philosophy of mechanism and fortuity. By pure physical causation they hold that everything has been produced from a primeval nebula, or gas-cloud. *It* was in the beginning, and *it* has evolved life, intelligence, self-consciousness, all

reason in man, and the reflex of reason in the order of the universe. Thus no case is left for any hyperphysical agency, much less a creative, designing intelligence.

But neither Darwinism nor evolutionism in general really necessitates, or even warrants, such a speculative inference. For if everything has been evolved from that impalpable nebula, either it was originally *more* than a nebula or it has been added to, in the course of its development, from a source beyond itself. An effect is simply its cause translated; and nothing can be developed into actuality which was not enveloped potentially in the germ. If a primitive ether has turned into the cosmos with all that inhabit it, this evolution was possible only by the constant addition of increments which, though singly so inappreciable as to pass for nothing, are in their aggregate so infinite that they constitute everything but ether. Power adequate to the result there must have been; and it makes no difference whether it be "concentrated on a moment or distributed through incalculable ages." And it surely is, as Dr. Martineau has so happily observed, "a mean device for philosophers thus to crib causation by hair's-breadths, to put it out at compound interest through all time, and then disown the debt."

This jugglery with causality, as though in time everything could be got out of almost nothing, is the besetting sin of Darwinists. In Darwin himself it takes the form of a dissolution of design into chance. In spite of his own admission that variations are determined by the nature of the organism, and that the ancestral organisms were divinely created and stocked with all the potencies that subsequently unfold themselves, the whole tone of the "Origin of Species" implies that organic nature has been blindly shaped by the mechanical operation of physical agencies, that instincts, functions, organs, and constitutions are but special instances of order that survived after the collapse of innumerable instances of disorder, which the reckless gambling of natural forces has been continuously producing since the first dawn of life upon our earth. The normal development seems a special case among a thousand. Instead of design, there is only a happy hit amid countless failures. Or, as Lange, rendering Darwin, graphically illustrates the point: You would not see evidence of purpose, much less of higher wisdom or transcendent cleverness, in the conduct of a man who, to kill a hare, fired a million pistols in all directions over a vast meadow; or who, to enter a locked room, bought ten thousand

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random keys and made trial of them all; or who, to have a house, built a city and turned the superfluous houses over to the mercy of wind and weather. Thus the conception of design, which Aristotle required for the understanding of all nature, and which Kant could not dispense with in reflecting upon organisms, is declared at last, by the Darwinist, useless in science and unwarranted in philosophy. And the famous argument from final causes, which Paley illustrated from the adaptations of a watch, seems to collapse at the touch of Darwinism. "Suppose," says an eminent interpreter of that theory, "that anyone had been able to show that the watch had not been made directly by any person, but that it was the result of the modification of another watch which kept time but poorly, and that this, again, had proceeded from a structure which could hardly be called a watch at all, seeing that it had no figures on the dial and the hands were rudimentary, and that, going back and back in time, we come at last to a revolving barrel as the earliest traceable rudiment of the whole fabric. And imagine that it had been possible to show that all these changes had resulted from a tendency in the structure to vary indefinitely, and, secondly, from something in the surrounding world which helped all vari-

ations in the direction of an accurate time-keeper and checked all those in other directions—then it is obvious that the force of Paley's argument would be gone."

Does, then, the doctrine of descent and Darwinism give the death-blow to teleology? This is a question of vital importance for metaphysics and ethics. And it is not too much to say that the essential philosophical significance of Darwin's work lies in its extra-scientific attempt to explain the adaptations in plants and animals as the blind outcome of purely mechanical causation. Full of admiration for those exquisite adaptations of one part of the organism to another part, and of one organic being to another being, as well as of all organic beings to the physical conditions of life, Darwin, after studying them with marvellous insight and patience, pronounces them all results of "nature's power of selection," of the struggle for life and survival of the fittest, among the innumerable combinations that have happened to arise.

Now, before inquiring into the warrant with which fortuity is here substituted for design, two preliminary remarks suggest themselves. The first is that the doctrine of fortuitous combinations is not the outcome of modern evolutionary

science, but the undemonstrated postulate of every merely mechanical philosophy. It is as old, therefore, as materialism; and the Greek atomists expounded it as skilfully as the modern English biologists, who, in fact, as we have already seen, were in this respect clearly anticipated by Empedocles. Matter first, atoms first, blind, groping mechanism first: that is the alternative which the history of speculation has always offered to the philosophy that holds intelligence to be the *prius* and nature but a means for the realization of divine ideas. If Darwinian science tends to assimilate the former, it is, I hope to show, equally compatible with the latter. At most you can only claim that it stands Janus-faced between ἀνάγκη and νοῦς, indecisive whether in the beginning was τύχη or in the beginning was the λόγος.

The second remark is that the doctrine of evolution, previously to the form it has recently assumed at the hands of the empirical philosophers of England, was not, as Janet has observed, usually opposed to the teleological, but to the mechanical, conception of the world. It was a theory of development from within, and in direct contrast to every theory of agglomeration from without. Leibnitz is the father of modern evolution-

ism, the foundations of which were laid in his law of continuity, his theory of insensible perceptions, his principle of the infinitely little, and his profound insight into the truth that "the present is big with the future." And yet the evolutionism of Leibnitz implies final causes, and is characterized by its antagonism to the geometrical mechanism of Descartes and Spinoza. Schelling and Hegel were evolutionists, but as remote from the mechanism of the French school of their day and the English school of ours as they were near to the hylozoism of the ancient Greek cosmologists.

Evolutionism, then, is not mechanism. Nor, as I think it can be shown, does the Darwinian doctrine of descent with modifications necessarily imply fortuity. Perhaps nothing in the "Origin of Species" has lent more color to that view than the account given of the formation of the eye and of the origin of the peculiar instinct of the cuckoo. And we may be sure that if not here, then nowhere in Darwin, does the fortuitous really play the rôle of a veritable artist, a *deus absconditus*, a creator of order and design.

It is well known that the European cuckoo lays her eggs in other birds' nests. The American cuckoo, however, makes her own nest. But in rare instances she has been known to follow the

example of the European cuckoo. From this fact Darwin undertakes to derive the origin of the unique instinct of the latter by means of natural selection. "Suppose," he says, "that the ancient progenitor of our European cuckoo had the habit of the American cuckoo, and that she occasionally laid an egg in another bird's nest. If the old bird profited by this occasional habit, through being enabled to migrate earlier or through any other cause; or if the young were made more vigorous by advantage being taken of the mistaken instinct of another species than when reared by their own mother, encumbered, as she could hardly fail to be, by having eggs and young of different ages at the same time—then the old birds or the fostered young would gain an advantage. And analogy would lead us to believe that the young thus reared would be apt to follow by inheritance the occasional and aberrant habit of their mother, and in their turn would be apt to lay their eggs in other birds' nests, and thus be more successful in rearing their young. By a continued process of this nature I believe that the strange instinct of our cuckoo has been generated."

This hypothesis raises many interesting questions for the scientist, but we are only concerned

with the fortuity which it seems to imply. We need not question that modifications of instincts, as of organs, may be advantageous; or that, having occurred, they will tend to perpetuate themselves on an arena where the race is to the swift and the battle to the strong. And we may even concede as possible Lamarck's identification of instinct with hereditary habit, and Darwin's derivation of such habit from the repetition of serviceable actions insured through natural selection. But on two points more light is indispensable. In the first place, do such variations of instinct as the hypothesis supposes actually occur? Experiment has shown that the habits of bees may be changed; but has it shown that this flexibility is inconsistent with the doctrine of fixed instincts? To regard the gradations of instinct as so many stages in the modification of it is to take for granted the very question at issue. Then, in the second place, if the variability is granted, by what right is it made fortuitous? When Darwin tells us that instincts have been acquired from habits and actions "which at first appeared from what we must in our ignorance call an accident," his language is unhappy and, indeed, unwarranted, for he is only giving expression to the doctrine with which our study of variations has made us

familiar—the doctrine of "spontaneous variations of instinct; that is, of variations produced by the same unknown causes which produce slight deviations of bodily structure." But these causes, as he has already told us, are innate to the organism; they are grounded in the very constitution of the being that varies. Were they not, they could not be inherited. An action purely accidental—ungrounded, that is, in the nature of the being that performs it—would not, on the doctrine of chances, even be repeated by that individual, much less transmitted to its descendants. What is there to transmit in such a fortuitous performance? By the very definition of it, it stands unrelated to everything else, and exhausts itself in the doing. If the strange habit of the European cuckoo was formed in the way indicated by Darwin, it is only because a predisposition to that mode of action lay dormant in the constitution. "When species vary," says the eminent botanist Naudin, whom Darwin frequently quotes, "they do so in virtue of an intrinsic and innate property." Mere chance variations could never get repeated and perpetuated. And this, indeed, is implied in a sentence with which Darwin confirms the report of the occasional aberrant habit of the American cuckoo. "I could also," he says,

"give several instances of various birds which have been known occasionally to lay their eggs in other birds' nests." If the cuckoo's deviation were as fortuitous as these, if it had no predetermining and abiding ground in the constitution of the cuckoo, how came it alone to develop into an instinct, when all the advantages accruing in this case were presumably operative in the others, too? This marriage with fortuity really hampers the single-eyed achievement of Darwin. Divorcing his science therefrom, he elsewhere admirably describes his position in these words: "If it can be shown that instincts do vary ever so little, then I can see no difficulty in Natural Selection preserving and continually accumulating variations of instinct to any extent that was profitable. It is thus, as I believe, that all the most complex and wonderful instincts have originated." Here, as always, everything is assumed with the variations. And their character can only be determined by direct observation and by inference from what they effect; and neither of these methods justifies us in calling them fortuitous.

When we pass from instinct to organ, we are still in the presence of analogous facts. The question is, How was the eye, with all its inimi-

table contrivances and marvellous adjustments, formed? The lowest animals, and probably our remotest ancestors, had no eyes, or any other sense than touch. We can imagine that the first stage in the development was a slightly heightened sense of feeling at some spot in the organism. If it gave the animal an advantage over others, either in procuring food or in defending himself, or in any other way, it would enable him to vanquish his rivals and perpetuate his advantageous modifications; and if the variability in that direction continued, animals possessing it would in surviving accumulate it, until, after the lapse of millions of years, the sensitivity might have solidified into something like the pigment-cells that constitute the lowest organs of vision now in existence. It is at this point Darwin takes up the problem. The apparatus of an optic nerve, coated with pigment and invested by transparent membrane, is only one step onward; and when we reflect on the wide, diversified, and graduated range of ocular structure in the lower animals, "the difficulty," according to Darwin, "ceases to be very great in believing" that natural selection may have converted this simple apparatus into an eye as perfect as man's or the eagle's, with all its wonderful arrangements for admitting

light, changing the focus, and correcting spherical and chromatic aberration. If the eye varies, what are all these different gradations but so many stages in the history of its variability—forms that have been preserved by natural selection? "The difficulty of believing that a perfect and complex eye could be formed by natural selection, though insuperable by our imagination, should not be considered as subversive of the theory," nor will it so be considered by any scientist who feels it "indispensable that the reason should conquer the imagination."

But if reason is to "conquer the imagination," it can only be by clearly apprehending the facts which imagination distorts. And when the imagery of the preceding description is translated into reality, the account of the formation of the eye looks reasonable enough, though of course it is not proof against an irrational interpretation. What perplexes us at first is the creative function assigned to natural selection. The eye is "*formed* by natural selection." And repeatedly in the same chapter natural selection is said to "*produce* structures." Now, we have not hitherto thought of natural selection as an originative power, and we are not prepared to admit that it could have formed the eye. And, indeed, it is

only metaphorically that anything of the kind can be attributed to it. Natural selection, it must be reiterated, is only a phrase for the survival of the fittest in the struggle for existence. But the survival of an eye at any stage of development is a very different thing from the formation of an eye. Natural selection, as Darwin elsewhere says, "can do nothing until favorable individual differences or variations occur." As it was only figuratively that we found it designated an "accumulative" agency, much bolder is the figure that invests it with "productive" powers. Literally, it means nothing but the survival of the fittest; and reason and imagination alike concur that the "fittest" must have preceded the survival. Eyes, therefore, are not formed by the survival of some of them, but merely culled and sifted. Natural selection does not issue the creative word, Let there be sight! Its is the humbler function of sitting in judgment on all forms that do emerge, dooming some to death and promoting their executioners to higher life. find out, now, if there is any trace of design in the matter, you must turn your gaze from the bench of judgment and scrutinize the beings that await its sentence. And doing so, must you not assert that the same ends which are realized in the

highest forms of organism and of organ were already contemplated and prefigured in their lower antecedents, and the gap between the two filled up by progressive modifications that strive restlessly toward their predetermined goal? And in Darwin's account of the formation of the eye, when metaphor has been translated into fact, I can find warrant for nothing more than this: That the eyes of animals have been improved through beneficial modifications, originating we know not how or whence, and that, in the struggle for life, the least advantageous eyes have been eliminated. Natural selection explains how any particular eye came to be perpetuated, once it had arrived upon the scene, but it is dumb regarding the *formation* of that or any other eye.

Although Darwin's account of the evolution of the eye contains nothing more than I have stated, there was, I think, in Darwin's mind an *arrière-pensée* due to speculative preconceptions. In accordance with the philosophy of fortuity, he seemed to regard the variations between which natural selection had to decide as altogether indefinite in their character, running out in every direction, and as little adapted, for example, to the formation of an eye as to the formation of a stone. The infinite modifications of that tingling

sensitivity at some spot of the skin of our sightless ancestor might have developed into anything else than an eye; and it is solely owing to the fact that other combinations, innumerable and heterogeneous, could not hit upon a stable equilibrium in relation to the environment that an eye happened to be set up at all. In this view, natural selection is only a learned name for chance. And so interpreting it, Lange, as we have seen, ridicules teleology, and the design-argument of Paley is declared by Huxley forever obsolete.

But we now know there is no scientific warrant for this philosophy of chance. No organism varies indefinitely. "A whale," says Professor Huxley, "does not tend to vary in the direction of producing feathers, nor a bird in the direction of producing whalebone." And, as we have already seen, other authorities join in the denial that variations are every-sided and indifferent. Further, the same scientists assure us that the "importance of natural selection will not be impaired" by this view of variations. But if so, natural selection is manifestly not wedded to chance, and not incompatible with design. Nay, it seems to presuppose design; since development takes place along certain predetermined lines of modification, and natural selection only

weeds out the inferior competing forms. The skin-spot that develops into an eye, and the revolving barrel that could develop into Paley's watch, both presuppose a tendency to definite variations; and this being confirmed by the latest evolutionary science, as we have already seen, everything is conceded that the teleologist demands. Natural selection as little implies fortuity as it excludes reason. Its alliance with an irrational and mechanical philosophy is due merely to a historical accident. The scientists who first ardently embraced the doctrine, and burned with missionary zeal in promoting it, happened for the most part to favor, or to seem to favor, a materialistic metaphysics. And this, in conjunction with the undertone of kindred speculation we have already noticed in Darwin himself, led inevitably to a coalescence of the new science with the old philosophy. The union was allowed to pass unchallenged by the first assailants, who were more bent upon disproving natural selection than keen in distinguishing between scientific hypotheses and metaphysical speculations; and it is still all but universally believed that the biology of Darwin is inseparable from those mechanical and materialistic schemes of the universe into which it has been fitted by the ingeni-

ous labors of evolutionary teachers in Europe and America. That there is no necessary connection, however, between the two, that Darwinian science is independent of this philosophy of mechanism and fortuity, has, I think, been convincingly established in the course of the present examination.

The determination of the general philosophical significance of Darwinism is a considerable step towards the solution of our ethical problem, for which, indeed, it was an indispensable precondition. Every system of ethics is affiliated to a metaphysics, expressed or understood; and every system of metaphysics carries with it a definite ethics. The moral philosophy of Kant could not be grafted upon the mental philosophy of Hume; and the "First Principles" of Spencer would never blossom into the "Sermons on Human Nature." On the other hand, the mechanical conception of the world has always engendered a utilitarian theory of morals. But if, as we have shown, Darwinian biology does not imply the philosophy of Democritus, it cannot, at least through that channel, conduct to the ethics of Epicurus. Are morals, then, in any way affected by the doctrine of natural selection?

To this question an answer is attempted in the following pages.

CHAPTER IV.

DARWINISM AND THE FOUNDATIONS OF MORALS.

It is important to fix accurately in mind what the subject of the present chapter is. With Darwin's own ethical views and speculations we have now nothing to do, though the exposition and examination of them (both in themselves and in relation to his natural science) must form the topic of a later chapter. Just at present, however, our inquiry is of a more general character. We want to know whether, the Darwinian doctrine of evolution being assumed, it entails any particular theory of morals. Or, since natural selection is the essence of the scientific achievement of Darwin, we have simply to ask, Does natural selection involve or indicate a definite type of ethics, so that acceptance of the one logically necessitates acceptance of the other? This question, it is obvious, is not identical with an inquiry into Darwin's own moral system, which, though dependent upon some philosophical principle, may

be absolutely disconnected with the hypotheses of biology. Leaving Darwin the moralist, therefore, wholly aside, we would fain settle whether Darwin the naturalist, in establishing the function of natural selection, thereby predetermined ethics to a particular form or invested its phenomena with a new cast of thought. And this point can be resolved only by ignoring the uncritical assumptions of the school and undertaking afresh an independent consideration of the facts and analysis of the notions which the Darwinian theory involves.

That theory, as already expounded, consists essentially of two moments—the struggle for life and the survival of the fittest. The former connects it historically and logically with Malthusianism, and may be considered as an application of the famous doctrine of population to the whole organic world. That is to say, the struggle for life follows inevitably from the enormous increase of living beings beyond the means of subsistence, as first pointed out in the case of man by Malthus. This debt to the national political economy Darwin has openly acknowledged. But it has not been observed that the other moment of his theory—the issue of the struggle—was conditioned by a conception borrowed from

the national ethics. He remembered distinctly, as he wrote Haeckel, how on reading Malthus's "Essay on Population" the thought of a universal struggle for existence first flashed upon his mind. But he could not remember, so early, so gradual, so subtly pervasive is the entrance of ethical ideas, when he had become inoculated with the national utilitarianism. Yet it can scarcely be doubted that it was from this source he extracted the notion of utility as determinator of the issue of the combat for existence. No one uninfluenced by the ethics of the school of Hume and Bentham would have ventured to interpret the evolution of life as a continuous realization of utilities. And yet the survival of the fittest, by which, according to Darwin, development is effected, just means the preservation of the most *useful* modifications of structure or habit. "Any being, if it vary, however slightly, in any manner *profitable to itself*," says Darwin, "will have a better chance of surviving, and thus be naturally selected." Or, in other words, before the operation of natural selection there must be a utility of some kind on which it acts. What is useful is preserved, what is harmful is destroyed. "Nature cares nothing for appearances, except in so far as they may be useful to any being."

Thus, as you dig down to the roots of existence, you find it draws its vital sap from utility. "Natural selection acts solely by and for the good of each." It may "produce structures" for the direct injury of other species, but never for their exclusive advantage. With certain exceptions that can be explained, the structure of every living creature as well as every detail of that structure "either now is, or was formerly, of some direct or indirect use to its possessor." Similarly, the instinct of each species is useful for that species, and has never been produced for the exclusive benefit of another species. Could these propositions be refuted, "it would," says Darwin, "annihilate my theory," for structures and instincts could not in that case be the product of natural selection. The survival of the fittest implies an antecedent utility—a modification advantageous to the individual or, it may be, to the community of which it is a member, but never directly and exclusively to others beyond this pale. Natural selection rests upon a biological utilitarianism, which may be egoistic or communistic, but which cannot be universalistic.

Let us now apply this doctrine to man, with the object of discovering its bearing upon morals. We have, then, to admit that the human species

has originated and developed to its present stage through the preservation and accumulation of a number of useful modifications which, whether of individual or social benefit, gave our semi-human, semi-brutal ancestors an advantage over other animals in the struggle for life. Of these modifications, one of the most obvious is an erect attitude. This peculiarity, which the orang, the gorilla, and the gibbon seem now on the way to acquiring, has manifest advantages. It enabled simian man, not only to hurl missiles at his enemies without forfeiting the power of simultaneous locomotion, but also to break and dress stones for definite purposes, thus beginning the career of that tool-using animal whose skill and ingenuity have changed the face of his physical environment.

But this career, even in its commencement, would have been impossible without the emergence of a still more important factor in the development. Mind is infinitely more useful than mere bodily structure; and it is not necessary to deny intelligence to the lower animals when we assert that the human mind is the most colossal and revolutionary of all the modifications any species has undergone. Such an enormous advantage would be preserved and perpetuated by

natural selection. For it enables man to do at once what nature takes ages to accomplish for the other animals; it enables him to adapt himself to his environment without change in bodily structure and organization. Imagine a group of carnivorous animals suddenly exposed to a severer climate and obliged to capture more powerful prey; only those with the warmest natural clothing and strongest claws and teeth could manage to survive; and as the battle with their evil star grew fiercer, the group, if not altogether exterminated, must languish through the long course of æons until their modifying organs and structures had become completely adapted to the new requirements through the play of natural selection. But the mental powers of man render him, in similar circumstances, independent of nature. He makes thicker clothing, and he fashions sharper weapons or constructs more cunning pitfalls. Simple as these performances seem, how infinitely advantageous they must have been in the struggle for life. When the intelligence which made them possible first appeared upon the scene, it effected "a revolution which [to quote the language of Mr. Alfred Russell Wallace] in all the previous ages of the earth's history had no parallel, for a being had arisen who was

no longer necessarily subject to change with the changing universe."

Simultaneous with this revolution was another, scarcely less significant, due to the appearance and operation of the moral sentiments. The moral being lives for others as well as for himself. But the lower animals are at best gregarious, not social; they lead a life of individual isolation and self-dependence. Each is alone, in the battle for life, exposed to the whole force of the combat. The sick and the feeble fall victims to beasts of prey or die of starvation. There is no division of labor to relieve the one from directly procuring its own food, no mutual assistance to succor the other till health and vigor are restored. Accordingly, any group of animals endowed with the least tincture of sociality and sympathy would, through the internal union and strength which these qualities evoke, have a decided advantage over other groups not thus endowed. A tribe animated by these instincts contains in itself a principle of survival of scarcely less efficacy than the mental faculties themselves. If these check the action of natural selection on the body, and transfer it to the sphere of intelligence, the social and sympathetic feelings screen the individual and oppose to the play of natural

selection the solid framework of a united and strengthened society. But sympathy and sociality imply fidelity, trustworthiness, truthfulness, obedience, and the like. And as these are useful in the struggle for life—being, in fact, means of social survival—not less useful are the other virtues which form the complex tissue of our morality. Hence it follows that the moral sentiments, as motors tending to the preservation of the tribe, must, like the mental faculties, be self-preserving and self-accumulating under the utilitarian sway of natural selection.

This view of the development of the simian quadruped into the moral person by means of natural selection seems to confirm the general impression that utilitarian ethics is the necessary implicate of Darwinian biology. We began by remarking that the biological theory borrowed the notion of utility from empirical morals; but we must now confess the loan has been so successfully invested that there is some ground for believing the proceeds suffice, not only to wipe out the obligation, but even to make ethics debtor to biology. In demonstrating the evolution of plants and animals, organs and functions, instincts and intelligence and conscience, through the preservation and accumulation of modifica-

tions useful for survival in the struggle for life, biology has led up to an ethical theory which places the governing principle of human conduct in utility; since, on its showing, utility has generated that conduct as well as the life and the species in which it is manifested. In the war of nature, nothing seems inviolate except what is useful. The stone which the intuitional moralists despised has become the head of the corner. In the evolutiono-utilitarian theory of morals, the process which nature has blindly followed in the development of life comes to a consciousness of itself, and is recognized as the norm of human conduct. "The ideal goal to the natural evolution of conduct is," according to Mr. Spencer, "the ideal standard of conduct ethically considered." Moral life is held to consist in harmonious adaptation to that social tissue whose production through natural selection was a prime condition of the origin of a species of moral beings. Moral rules are regarded as the expression of those social adaptations which, on the whole, and after infinite gropings, proved most serviceable in the preservation of groups of human animals in the struggle for existence. They are the picked-up clothes which warmed and protected a naked social body and enabled it to vanquish all its

rivals. Little wonder if, after the conflict, they have become a fetich to the victors—to all but the few who have tracked their fossil history!

Thus, then, this philosophy of human conduct has been merged in the wider philosophy of life. But the new utilitarianism wears an aspect somewhat unlike the old. They hold, indeed, the same fundamental position in regard to opposing theories; but as between themselves there is an obvious contrast. For, though the note of utility is as clear in the "Origin of Species" as in the "Principles of Morals and Legislation," there it means power-giving, here pleasure-giving; so that, far from running into each other, Darwinism and Benthamism might take their places respectively under those opposing categories of activity and pleasure into which Schleiermacher resolved every difference of ethical systems.

Of course, if it could be shown that what brings pleasure is identical with what gives power to survive—what is serviceable in the struggle for life—the case would be changed, and the last residuum of the old utilitarianism would have been assimilated by the new. But for this identification Darwinian biology supplies no material. And though it has been speculatively attempted in Mr. Herbert Spencer's elaboration of Pro-

fessor Bain's suggestion that pleasure is accompanied by an increase of some or all of the vital functions, his arguments are not so much deductions from evolutionary science as postulates of a foregone psychological and ethical hedonism. Even, however, where hedonism is theoretically held to, it is no longer the real vital moment of evolutiono-utilitarianism. Instead of the greatest happiness of the greatest number, you have another standard; and morality, as with Mr. Leslie Stephen, is defined as "the means of social vitality," "the conditions of social welfare," "the sum of the preservative instincts of a society." In the last phase of its development, as in the earlier, utilitarianism retains the conception of morality as something relative, a means to an end beyond itself, and as a product of physical or psychological compulsion rather than the self-imposed law of a free moral agent. It has forfeited none of the essential attributes of a system of utility. But, in spite of the protests of its leading advocates, it is casting the slough of pleasure, which seemed a vital part of its earlier life. It still holds that the moral is identical with the useful, though when you ask, "Useful for what?" the answer is no longer "For pleasure," but "For preservation"—*i.e.*, for social

vitality, for the well-being of the community. Of those pleasures and pains in which Mill found the sole motive of conduct, as well as the criterion and the sanction of morality, Darwin knows nothing; but, these apart, the essence of utilitarianism and the essence of Darwinism, the principle of utility and the principle of natural selection, have such strong elective affinities that to effect their combination nothing was required but to bring them together. Their union establishes the high-water mark of contemporary utilitarianism.

The transformation has given scientific completeness to utilitarianism. In the hands of Bentham, even, the phenomena of morals were held apart from all other phenomena, but through the common notion of natural selection they have been colligated with the facts of biology; and from the enlarged horizon a gain is expected similar to that which came to the sciences of heat, light, and electricity when they were recognized as merely different applications of the one general theory of motion. And already, it is maintained, obscurities of the system on its lower plane are dissipated in the light of its higher altitude. Nor is this effected by the incorporation of elements foreign to the primitive doctrine, such

as may be seen, for example, in that peculiarly noble and attractive exposition which the pre-evolutionary utilitarianism received from its last great exponent. In John Stuart Mill's presentation of it the ethics of utility transcends itself, and the hedonism of Bentham has to be supplemented by the moral law or categorical imperative of Kant, which appears under the form of a "sense of dignity," a reverence for the humanity in one's person, an abiding consciousness of an ideal and attainable worth which forbids dallying with lower ends however strong the attraction of their pleasures. But it is not by such an amalgamation of opposing conceptions that the evolutiono-utilitarian commends his theory. He holds that utility alone, under the action of natural selection, takes on the appearance of morality, and he pledges himself to derive from this lowly source all those lofty attributes with which men have invested the moral law and glorified it as the oracle of God. Thus evolutionary ethics claims the field, not merely as a deduction from biology, but as a complete scientific explanation of the phenomena of morals. This aspect of it we have now to consider.

The moral law is popularly regarded as simple, unanalyzable, or ultimate. When it is said that

justice is right, that benevolence is a duty, that stealing or lying is wrong, we do not attempt to demonstrate these propositions by means of others, but directly and immediately assent to them as carrying their own self-evidence. It is instinctively felt that no reason can be given for them, any more than for the axioms of geometry. And the unsophisticated sense of the plain man is shocked by the suggestion that moral precepts stand or fall with their conduciveness to pleasure, and still more by the suggestion that virtue, which he takes to be the end of life, "is naturally and originally no part of the end," but merely a means to something else—to pleasure as final goal. And it was very difficult for Mill and his predecessors to explain how in theory men had been duped into accepting ethical precepts solely on their own credentials, and how in practice they had been hoodwinked into realizing them disinterestedly, for their own sake, and without the slightest reference to ulterior consequences. But the example of the miser did valiant service in their psychology; and it was argued that, if money, originally only a means to what it purchases, could through association of ideas come to be desired for itself, and that, too, with the utmost intensity, virtue might undergo a similar transforma-

tion, and through conduciveness to an end eventually become identified with the end. Nor is the musty example of the miser yet obsolete, as readers of Mr. Spencer will remember. It is, however, reinforced with new arguments in the ethics of the evolutionists. They do not require the plain man to believe that the tissue of his ethical sentiments has been woven in his own lifetime. They show him how the warp and woof were spun in the brains of animals scarcely yet emerged as men, and then, following the movements of the shuttle in the roaring loom of time, they delineate the formation of a moral texture in our race—a texture inherited by every individual when once it has been acquired by the species. And how precisely is it acquired? By the help of natural selection. The early societies that did not happen to hit upon the practice of justice, benevolence, etc., could not possibly hold together against groups observing these relations; and then the constant danger of extermination impressed the survivors with the indispensableness of the fundamental virtues, which flamed ever before them, as it were, in characters of blood. What we are familiar with seems simple, what we have always done we do again; and who can wonder, therefore, that our primitive ancestors,

slaves of imitation and of habit, should have deemed moral precepts self-evident and the practice of them an end in itself?

Equally with the simplicity and ultimateness of our moral conceptions, the evolutionist explains their innateness. Agreeing with the intuitionist that these notions are part of the original furniture of every mind that comes into the world, the evolutiono-utilitarian holds them to be ultimately derived from experience; and if he be a hedonist, like Mr. Spencer, he will add, from experience of pleasurable or painful consequences, though this experience is by him relegated to the past history of mankind. "Moral intuitions are the results of accumulated experiences of utility." Just as the emotion you feel in visiting the home of your youth seems unique and inexplicable, yet is manifestly due to a vague recollection of joys formerly associated with the objects that surround you, so, it has been ingeniously suggested by M. Fouillée, the sentiments which accompany the performance of virtuous acts are the perfume of an earthy soil—a kind of recollection or indistinct echo, not only of our own pleasures, but of the joys of the entire race. And it is this reverberation over the ages of a utility for the race that we take for an innate tendency to disinterestedness.

A similar account is given of the immutability and universality of moral conceptions. Morality being the indispensable condition of social existence, it is coextensive with humanity. The primal virtues shine in every tribe and nation, for without them no section of the human family could have found its way through the struggle for existence. And as amid many smaller variations the general conditions of social life are everywhere the same, moral laws could not fail to be, if not eternal and immutable in the absolute sense of Cudworth, yet as unchanging and enduring as the human species and the universe it inhabits. The fundamental agreement in men's moral notions is thus explained without any assumption of supranatural revelation or *à priori* intuition.

Moral obligation presents a greater difficulty; and evolutionary moralists of the school we are now considering have had to fall back upon the answer of the ordinary utilitarians. They ascribe the sense of obligation to the effects of the legal and social sanctions with which certain kinds of conduct are visited. Moral motives being at first inseparable from political and social motives, they have been permeated with that consciousness of subordination to authority which naturally arises

out of the relation of subject to ruler and of individual to tribe. The coerciveness which now forms so important a constituent in our consciousness of duty is a survival of the constraint with which primitive man was forced by external agencies into certain lines of conduct and deterred from others. And hence it follows that, as morality is differentiated more completely from the legal, political, and social institutions in which it originated, the feeling of obligation generated by them will gradually fade away. Thus the evolutiono-utilitarian account of obligation discovers it a transitional feature in the process of human "moralization," and this essentially is all that it adds to the theory of Mill and Bain.

This newest theory of morals, here too briefly outlined, embraces in its range the entire province of moral conceptions and sentiments. But from what has been said the general character of the system will be readily discerned. It is simple, intelligible, and even plausible. That it should have proved fascinating to all, and irresistible to many, of the generation that has so long listened to it with an ardor brooking little distraction from other theories, cannot be a matter of surprise to anyone who has duly considered the facts with which the theory is associated. Borrowed, as

they are, either from observation or from well-established sciences, and fitted ingeniously into current evolutionary ethics, they seem to be an organic part of the structure; and the question of otherwise explaining them is not likely to be raised. Conversely, the full implication of the principles upon which they are here grafted has been left unexplored. And thus, while the new ethical philosophy has been widely accepted, a determination of the bases on which it really rests still remains to be made. This want we must now attempt to supply.

In the first place, then, evolutionary ethics, as hitherto presented, takes for granted the derivative character of morality. I say "as hitherto presented," because I hope to show in the sequel that there is nothing in the notion of development when applied to morals which necessitates, or which even warrants, the assumption. But our exponents of evolutionism happen to have been trained in the school of Epicurus, Hume, and Bentham, and it is not, on the whole, very surprising they should have carried the old leaven into the new teaching. What is surprising is the assumption, so coolly made, that the theory of evolution in some way vouches for the utilitarianism our moralists associate with it. As though a

follower of Plato or Kant, for example, could not be a Darwinist in science! Is it forgotten that, even if goodness be an end in itself—the sole end worth living for—it still remains true that honesty is the best policy, that honest acts are the most advantageous acts, and that they will accordingly be preserved through natural selection in the struggle for existence? All that natural selection requires is that something shall be useful; *what else it may be*, what other predicates it may have, wherein its essence consists, natural selection knows not and recks not. Be virtue a proximate end or an ultimate end, natural selection tells us it will be preserved and perpetuated if it is useful; and it tells us no more. It is, accordingly, a gratuitous assumption which our exponents of evolutionary ethics make, when they decline to allow more than a merely relative value to morality. And as their position derives no support from evolutionary science, so is it exposed to all the objections which moralists, voicing the universal consciousness of mankind, have brought against it, from the time when Aristotle asserted that virtue has no extrinsic end (*τοῦ καλοῦ ἕνεκα*) to the time when Kant proclaimed the absolute worth of a good-will.

In the second place, the current expositors of

evolutionary ethics having made the radical assumption that moral laws are not categorical imperatives which command unconditionally, but hypothetical imperatives which prescribe means to the attainment of some end, they cannot escape the problem of determining wherein consists that ultimate end, conduciveness to which alone gives morality its worth and obligation. Nor, in general, has the school been dismayed by the magnitude or the obscurity of this problem. Possibly it has not fully realized that the question is nothing less than an inquiry into the highest good for man or the supreme end of human endeavor. Be that as it may, one cannot but be interested to find that, in spite of the distrust of reason generated by modern theories of knowledge, our evolutionary thinkers dare to face the problem which, in undisturbed consciousness of reason's might, ancient philosophers put in the foreground of their ethics. Even in an age of agnosticism thoughtful men come round to the sphinx-riddle, What am I here for? what is the end of life? The question may not, it is true, take precisely this form in the mouth of a modern evolutionary moralist, but that, after all, is substantially what he is bent on discovering and what he must discover—*must*, if his thesis is to be made good that

morality is only a means to something else. And there is no logical reason why he should not appropriate the Aristotelian solution that man's highest good consists in the most perfect rational activity, that his supreme end or function is to inform life with reason and make his entire being the embodiment of reason. But, as a matter of fact, most typical evolutionary moralists have selected a very different ethical end—pleasure. They have maintained with Mr. Spencer that "the good is universally the pleasurable," and that conduct is made good or bad solely by its "pleasure-giving and pain-giving effects."

Still the evolutionary moralist, even of the derivative school, is not necessarily committed to this solution of the problem. He may doubt that the supreme end of life is to get and to give the greatest amount of pleasure. And appropriating the language of that Rabelaisian description of Carlyle's, on which Mr. Spencer has poured forth eloquent objurgation, our doubter may question whether the universe is merely "an immeasurable swine's trough," and whether "moral evil is unattainability of pig's-wash and moral good attainability of ditto." For certainly the hedonist cannot, in the absence of antecedent obligations which this theory excludes, but deem *his*

own pleasure the highest good; and whether accepting or not the psychology of the school which teaches that nothing but one's own pleasure *can be* the object of desire, he will acquiesce in the ethical dictum of Bentham, that "to attain the greatest portion of happiness for himself is the object of every rational being." But as soon as this opposition between his own pleasures and the pleasures of others is brought distinctly into consciousness, and the former recognized as the end, the impossibility of constructing an ethic on this basis is manifest. There is no way across the chasm that yawns between "each for himself" and "each for others." And if man be merely a pleasure-seeking animal, you but mock him when you enjoin him to promote the happiness of others. Accordingly, a sincere and logical utilitarian who felt with Mill, that the spirit of his ethics was that of the golden rule of Jesus of Nazareth, would drop altogether the notion of pleasure, which has hitherto filled the system with inconsistencies, and allow the ethical principle, thus freed from the accidental setting of a psychological hedonism, to proclaim itself as the greatest *good* of the greatest number, or, better still, as the *well-being* of society. Whatever be the content of that well-being (and

there is much in it besides pleasure), it, and not happiness either of self or others, is the end which utilitarianism pure and simple, the utilitarianism of Mill divorced from his more than dubious psychology, might set up as the ultimate end for every moral agent. And this, in fact, is the supreme principle of the ethics of Darwin, though he directs attention rather to the genesis of moral rules than to the reason for our observing them. And though Mr. Spencer is too strongly influenced by the national ethics to forego the final reduction of morality to pleasure—and even the agent's own pleasure—he yet maintains that those acts are good which conduce to the welfare of self, of offspring, and of society. The same end is recognized by Mr. Leslie Stephen in his explanation of moral rules as means of social preservation; yet Mr. Stephen has not been so unfaithful to what he calls his own "school"—Bentham, Mill, etc.—as to separate its psychology of self-seeking from its ethics of self-sacrifice.

When this divorce does take place, however—and already it is heralded in Darwin—there will be no longer in this respect a fundamental opposition between evolutionary ethics and common-sense morals. Attempts to patch up a truce, on

the assumption that pleasures might through heredity be transformed into duties, have utterly failed. But the simple recognition of the welfare of society as an ultimate end is not to go outside of morality to find a reason for it, against which the intuitionist has always protested. It is to take one virtue, already recognized by the intuitionist, for the whole of virtue. And to that extent the two schools are in essential agreement. A difference, however, appears when you inquire if there are not virtues which the general formula of promoting the well-being of others does not embrace. Common-sense seems to say there are other duties as original, as self-evident, and as obligatory, as benevolence. And it does look rather incredible that every man should be an end to others and not to himself. We do not easily rid ourselves of the conviction that goodness consists rather in the realization of a certain type of character in ourselves than in the performance of any external actions, though of course conduct promotive of the welfare of others would be one necessary outcome of the character thus indicated.

I come now to a third characteristic assumption of current evolutionary ethics—the fortuitous origin of morality through a process purely me-

chanical. This must, I think, be regarded as the fundamental tenet of the school; but in England, at least, it seems to have been taught with all the reserve of an esoteric mystery. The accredited expounders of the subject have in their exoteric writings enveloped this point in such a wrapping of extraneous discussions that even a master in ethics like Professor Sidgwick has hazarded the declaration that evolution, however conceived, can make no difference at all in our ethical theories. But, with all deference to so eminent an authority, I hold that if this mechanical conception of moral evolution be conceded, the question of an ethical end—of what we ought to aim at—becomes unmeaning, since there cannot, in a literal sense, be any ends or aims for a being conceived as a mere mechanism, even though its random acts have through natural selection been solidified into habits, and habits, on the supervention of consciousness, been reflected as rules. And this interpretation of evolution would be as fatal to practice as to theory. An individual who really accepted it must regard moral responsibility as illusory, as nothing but an echo of the modes of conduct which enabled the human species to overcome what was untoward to its progress or what threatened its extinction. For

him the entire preceptive part of morality must seem a baseless imposition. And in the courageous language of M. Guyau he could recognize nothing but *une morale sans obligation ni sanction.* No longer *αὐτόνομος* man must perforce be *ἄνομος*. Had this point been brought out as clearly by the English as by the French evolutionists, they would have seen that their own principles required them to dismiss the incongruous problem of establishing the validity of moral rules, even if they still persisted in speculating on the origin of them. It is worse than idle for mechanical evolutionists to talk of the reason or end or ground of morality.

That morality has had a mechanical origin is, I have said, the fundamental assumption of current evolutionary ethics. The ancestors of man had no moral fibre in their constitution, but through long-inherited experiences of the consequences of conduct man has been rendered "organically moral." Just as intelligence, in general, according to the same theory, has been generated in unintelligent beings through the accumulation of modifications arising from intercourse between the organism and its environment, so the moral faculty, in particular, is the result of all those experiences whereby mutually repellent individual

animals were fused together into society and enabled to perpetuate a victorious existence. The evolutionist conceives life as the continuous adjustment of inner relations to outer relations; so that, even before the rise of sentiency, the acts of living beings must have been adapted to their environment, and intelligence, when it did emerge, could be nothing but the consciousness of relations already blindly established, and the function of conscience could only be to recognize the utility of what promoted life. The evolution of man—the self-conscious and moral person—from lower forms of life is referred to physical causation alone. As the human pedigree has been traced up to the simian branch of the animal tree, and no ground discovered for absolutely separating the latest from the earliest offshoots, our most eminent living biologist maintains that when Descartes declared all animals to be automata, his only error lay in excluding man from the same class. This conscious automaton is but the highest term of an animal series whose law of development is already known, and everything in his constitution is explicable by that law. But the evolution of life has realized itself through a mechanical process; consequently those distinctive characteristics which mark off the human

from the simian species must be the products of the same process. As natural selection has endowed all beings with the constitutions and habits and faculties which they actually possess—the eagle with his eye, the bee with her sting, the lion with his rage and strength—so must natural selection have endowed man, not only with an erect attitude, but also with a reason that looks before and after and a conscience that responds to right and wrong. The mental and moral faculties are both reduced to the rank of natural phenomena. Indeed, to express their essentially derivative and, as it were, accidental character, a new word has been coined, and intelligence is described as an "epiphenomenon." By this term is meant that consciousness is a merely accessory aspect of the human automaton, a psychological index of corporeal movements which are the prime reality, a reflex of mechanism which would go on all the same without any reflex, just as an engine would move along the rails if it did not whistle, or a bird fly if it cast no shadow. But if the school interprets consciousness as an accident of the human automaton, it makes conscience an accident of this accident. First mechanism realizing itself in certain relations (by means of natural selection), then consciousness of these

relations, then approval of their life-conserving tendencies, or conscience. The moral faculty is the recognition of social relations; it is the social instinct of the animals come to a consciousness of itself in man; and this social instinct is but the consolidation of habit, and habit is the product, through natural selection, of random actions struck out in the struggle for life. Thus the moral nature of man is merged in the mechanism of nature. The logical, as the chronological, *prius* is, therefore, not intelligence, but mechanical action. The exegesis of Faust receives a startling illustration: *Im Anfang war die That.*

This moral theory, therefore, implies and rests upon a system of metaphysics. I do not think we can too often reiterate that current evolutionary ethics is the outcome of a very dubious physico-psychical speculation. From overlooking this connection the issue between moralists of this school and of other schools has not been clearly discerned, and the very heart of the question has been generally left untouched. I do not, of course, mean to call in question the results of the astronomical, physical, chemical, and biological sciences. What one teaches about the gradual formation of the universe, and another about the

gradual development of organisms on our globe, I accept implicitly. But because minerals and plants and the lower animals appeared before man, I will not, therefore, hold that they were adequate conditions to his production, or that there is nothing in him that was not generated through actions and reactions between an animal system and its physical or social environment. Such a doctrine used to be called materialism, but in deference to the feelings of speculative evolutionists the word has nowadays been dropped. All the objections, however, which were formerly urged against the derivation of mental and moral functions from material combinations, however finely organized, are still valid against the evolutionary identification of intelligence with the modifications produced in the nervous and muscular systems from action and reaction between the organism and its environment. Man is later on the scene than the unintelligent organisms; but whence his intelligence we know not, unless it be the emergence of something new from the fountain of being, from the underlying ground and sustaining cause of the whole evolutionary movement. Certainly it was not evolved by mere repetition of mechanical actions. Were intelligence not at the heart of the cosmos,

it could not have turned up as the crowning glory of the development of life.

The same position may be taken up in opposition to the current evolutionary ethics. Biology warrants the belief that non-moral beings existed on our globe long before the appearance of the only moral being we know—man; and natural selection explains the process by which the latter may have been descended from the former. But natural selection, as we have already shown, creates no new material; it merely sits in judgment upon what has already appeared. Given acts, or habits, or moral practices, natural selection is the name for the survival of the fittest of them, not the talismanic cause which originates any of them. However they originate, they must have a definite relation to the constitution of the being that manifests them; and to suppose that moral sentiments, moral notions, moral practices, could be grafted upon a primitively non-moral being is, in the first place, to take a grossly mechanical view of human nature and, in the second place, to transgress the limits alike of natural selection and of evolutionary science. Yet this is what is done by our evolutionary moralists. A moral law, they tell you, is the formulation by intelligence of the social practices instinctively followed by the more

or less unintelligent ancestors of man, these practices themselves having crystallized into habits from an inchoate chaos of random acts. We have in the preceding chapter considered Darwin's derivation of instincts from casual actions, and we have here only to inquire whether conscience is nothing but the social instinct illuminated by intelligence. Were it so, we could not fail to admire the manner in which morality was forced upon unwilling beings until at last appeared an intelligence capable of freely accepting it and heartily setting about its realization. As in the education of the human race, according to Lessing, religion is at first revealed only that it may ultimately become rational, why should not the practice of morality at first have been compulsory that it might in due time become free and gracious? But, after all, I believe an analysis of the facts will not suffer us to take this view of the providential government of the world. In the contents of the moral consciousness I find unique elements, unlike anything that went along with the earlier stages of the development of life, and absolutely incapable of resolution into practices useful for social survival blindly followed by the non-moral precursors of humanity. If the social instinct is, as the theory supposes, only a means

of preserving society, how could intelligence ever take it for more than that? But in the moral consciousness of mankind there is clear recognition of an absolutely worthful. And, in the next place, if this be denied, there remains one element in the moral consciousness that forever distinguishes it from a mere intelligence-illuminated social instinct, namely, the sense of duty. Even if moral law be supposed nothing more than the expression of devices wrought-out unconsciously in the course of æons, for securing the vitality and well-being of society, why do I recognize myself under obligation to observe the law? This consciousness of duty, the most certain and most imperious fact in our experience, whence does it come if man have no moral fibre in his primitive constitution? On this rock the ethics of Kant, giving scientific shape to human morality, is firmly intrenched. And no better testimony to its security could be found than the shifts to which evolutionists are put when they attempt to resolve this element of the moral consciousness into race-accumulated experiences of utility. Mr. Spencer, indeed, supposes men to have been scared into moral obligation by the baton of the primitive policeman, the ostracism of primitive society, and the hell of the primitive priest. How a

society could exist to deal out these political, social, and religious sanctions, *unless it rested on a moral basis*, the evolutionist does not explain. And one may, therefore, be pardoned for seeing here only another of the countless attempts to derive morality from ideas and institutions which already presuppose it. The ὕστερον πρότερον is the bane of evolutionary ethics. Naturally enough, the sentiment produced by the terrors of ancient law, politics, and religion, will decay with the cessation of its causes; and as Mr. Spencer identifies this sentiment with moral obligation, one can understand how he reaches the paradox that the "sense of duty, or moral obligation, is transitory." In another way the same conclusion is reached by M. Guyau, who follows Darwin. Conscience is the social instinct, he says, and the scientific spirit is the great enemy of blind instincts; it illuminates them, and in the flood-tide of light dissolves them; what habit has made, reflection unmakes; and nothing can save morality when conscience has met the doom of every instinct—dissolution under scientific reflection. "Pan, the nature-god, is dead; Jesus, the man-god, is dead; there remains the ideal god within us, duty, which is also, perhaps, destined one day to die." But the irrefragable reply to these oracular prophecies is

that they rest upon a misreading of the actual record. *If* moral obligation be the effect of certain historical causes, it may decline with the decadence of those causes, and *if* conscience be a blind instinct, it may follow the supposed law of dissolution of instincts; but the conditional ground of the consequence is in neither case established, in neither case does it rest upon evolutionary science, in neither case has it any antecedent probability apart from the *à priori* prejudice of the utilitarian in favor of the derivative character of morality and the moral faculties. Instead of so accounting for the rise of a moral sense and moral obligation, as a kind of accident in our constitution, mankind (a few metaphysicians apart) persists in regarding them as of the very essence of human nature. The absolute "ought" cannot be the product of any experience with the primitive policeman or priest, since (apart from the fact that there would be neither without it) experience only records what is advantageous for certain ends and cannot, therefore, enjoin anything categorically. Hence the pretence of the evolutionists to have reconciled the experiential and intuitive schools of ethics cannot be sustained. Those predicates of the moral law which, in the earlier part of this chapter, we found the evolutionary theory

claiming to account for—its simplicity, universality, etc.—are not its essential attributes; so that, even if the evolutionist's contention be granted, he leaves untouched the fundamental constituents of the moral consciousness—our sense of an absolutely worthful, the right, not merely the useful, and our recognition of its authority over us as expressed in the word "ought." For these ideas no experience can account, and every experiential theory virtually explains them away as the indispensable condition to its own plausibility. However long the process, whether extending through one generation, as the older utilitarians imagined, or through countless generations, as the evolutiono-utilitarians assume, there never will be success, as Lotze justly observed, in fetching into an empty soul, by means of the impressions of experience, a consciousness of moral obligation.

Nor, in fact, does evolutionary science, relieved of the metaphysical baggage with which it has hitherto been grievously freighted, require us to believe in the possibility of this desperate feat. It assumes that morality has been developed through natural selection. And because natural selection presupposes a utility—a fittest that survives—the evolutionists have fallen into the fallacy of supposing that morality was *nothing but*

a utility. That is the explanation of the plausibility of their ethical theory as expounded in the earlier part of the present chapter. And no other refutation, after all that has been said, need now be added except the reminder that natural selection, though wide-awake to the uses of things, is blind to their nature and essence. It takes advantage of the utility of morality, but no more determines its content and meaning than a positivist who passes over the question of the essence of things. It acts upon germs of all kinds, once they have been produced and are moving through phases of development; but it knows not what the germs are, whence they come, or what develops them. The whole question, so far as ethics is concerned, turns on the nature of those primitive modifications out of which morality has been evolved. But on that point evolutionary science has no answer of its own to give, and the blank has been filled by the preconceptions of evolutionary speculators. Subordinating, as the school has hitherto done, intelligence to mechanism, it has invariably sought the first germ of conscience in a random action that proved useful to the species in which it was struck out. We have, on the contrary, maintained that this hypothetical derivation passes over the very essence

of the moral consciousness; nor can we imagine any other way of deriving it which does not already presuppose it. In opposition to this mechanical theory of conscience, we hold that it is an ultimate function of the mind, and that in germ as in full fruition it must be regarded, not as an action, but as *an ideal of action.* The consciousness of right and wrong is underived, and, like intelligence in general, witnesses to a suprasensible principle in man—a principle which the wheels of mechanism, grinding through eternity, could never of themselves produce. This view of the subject may be affiliated to Darwinism as readily as the other. For an abiding ideal of action is, to say the least, quite as beneficial as a chance action; and wherever there is an advantage, there natural selection may operate. But natural selection does not determine the material upon which it works. Given the forms of primitive morality, whatever they be, natural selection only settles which shall perish and which survive. Its function is the negative one of sifting whatever has attained to positive existence. In the book of Job, Satan represents, according to Professor Davidson, the testing, sifting providence of God: natural selection is the Satan of the evolutionary powers. Strange, indeed, that it

should ever have been mistaken for the powers themselves!

The ethical conclusions here reached and co-ordinated with the doctrine of evolution and Darwinism (which I everywhere take for granted) are so opposed to those of most evolutionists that some fallacy may be supposed to infect all our reasonings. After the evolutionary teachings of the last twenty years, it seems either blindness or disingenuousness to maintain that evolution leaves our ethical problems precisely where it found them. And so, in spite of all the preceding analyses and criticisms, the old objections are sure to recur. Does not the evolutionary doctrine of heredity imply that man is what his ancestry has made him, and so abrogate our belief in the freedom of the human will? And does not goodness cease to be divine when you have explained moral laws as a statement of the habits blindly struck out and blindly followed by simian or semi-human groups in the struggle for existence? If morality is merely a formulation of the practices which, accidentally hit upon by some group of animals, made the group coherent, and thus enabled it to vanquish rival groups with different practices, would it not seem merely accidental that justice and truthfulness are vir-

tues, and not injustice and lying? For if these vices, or others, had enabled those primitive semi-human societies to survive, they would not have been vices, but virtues; for virtue is nothing but a useful means of social survival. Will not evolution, then, as thus interpreted, work revolution in our views of the moral nature of man, since it implies that morality is not grounded in the nature of things, but something purely relative to man's circumstances—a happy device whereby man's ancestors managed to cohere in a united society and so kill out rival and disunited groups?

Now, it is not necessary to deny either the social utility of morals or the influence of heredity in order to show that, whatever the first appearance, evolution is not in reality revolution in the sphere of man's moral nature. It is no doubt true that heredity supplies us with much of the material out of which we make our characters. But it is only by an oversight that we identify our character with the inherited elements out of which we form it. As Aristotle profoundly observed, nature does not make us good or bad, she only gives us the capacity of becoming good or bad—that is, of moulding our own characters. Emphasize as you will, then, the bulk of the inheritance I have received from my ancestors, it

still remains true that in moral character I am what I make myself. On stepping-stones of their dead selves men rise to higher things; and neither our ability to do this, nor the consciousness of that ability implied in the freedom of the will, is affected in any way by evolution.

But surely, it will be objected, evolution does mean revolution in our views of human nature, if it makes moral rules a mere social utility. I admit the conclusion, but reject its premises. For, as I have already urged, the facts of human life will not allow us to interpret morality as a mere accidental arrangement whereby our animal ancestors came out victorious in the struggle for life. I do not deny that morality would, as a matter of fact, be useful to any society practising it in the war of all against all in the struggle for life. That it is useful is clear from the readiness with which people follow Hamlet's advice to his mother and assume a virtue when they have it not. But if morality be nothing more than mere social utility, a mere device which enabled man's ancestors to kill out rival groups, I fail to understand how there has arisen in man a conscience which makes cowards of us all; a remorse which drives a Lady Macbeth to madness, and a Judas to suicide; a sense of eternal right so strong that

no theory can make us believe we are hoodwinked into righteousness, truth, and justice, by the mere accident that lying, injustice, and unrighteousness were less useful in holding primitive societies together and enabling them to kill out their rivals. And all this might be conceded by the evolutionist, had he not fallen into the fallacy of holding that, because virtue is socially useful, therefore it is nothing but a social utility. There are other things besides morality which favor the survival of primitive societies. We have already spoken of the advantages of an erect attitude and of a sound intelligence. Yet the evolutionist does not call these characters *mere* social utilities. The eye, for example, has no existence among the lowest animals; yet when it does appear, its own new story is accepted as a fresh revelation of fact. Instead of describing it as an advantage in the struggle for life, the evolutionist sees in the new organ the possibility of a deeper communion with reality; and the more developed the organ the more valuable its evidence. The earliest eye was probably nothing more than a tingling sensitiveness to light and darkness. The most developed eye discerns a spectrum of seven colors; and along with this advance it has also acquired the capacity of measuring distances,

magnitudes, and situations. Both these functions of the eye were eminently useful in the struggle for life: they enabled their animal possessor to get food more easily and escape foes more deftly. Yet the evolutionist does not hold the eye is merely a utility. Bringing the surprise of something new and unexpected, the eye, he will recognize, is useful only because it makes us aware of fact. But if you accept the evidence of the eye when it testifies to the colors or sizes of objects, you cannot reject the depositions of conscience to the moral character of conduct and motives. This is a new mental function, and has the same claim upon you as the other. The validity of the intuition, "Injustice is wrong," is neither greater nor less than the validity of the perception, "Snow is white." The vision of both the outer and the inner eye is useful, but useful simply because each gives us new revelations of reality.

The same result is reached by comparing the deliverances of conscience with the discoveries of intelligence. The lowest animals have neither conscience nor reason. The infinite advantage of either we have already described. Even the germ of reason suffices to make man lord of creation. Think only of the significance of the dis-

covery that twice two are four. An intelligence advanced to that point is on the way to geometry, trigonometry, and the calculus, to all those sciences whose application has changed the face of the material world. As the highest mathematics is useful to us, so was the first germ useful to our ancestors. But it does not, therefore, follow that arithmetic is merely a social utility. On the contrary, it is useful for the reason that it brings man into deepening relation with fact; but its validity is wholly independent of its advantage to mankind, and only the satirist could suggest that twice two would be five if that product were more advantageous to us. Arithmetical facts cannot be determined by a plebiscite of utilitarians. And the same is true of the deliverance of conscience that injustice is wrong. Ultimate mathematical principles and ultimate moral principles have the same intuitive evidence; and it is not weakened by the assumption that man owes his bodily organism to animals in which there was no trace either of a moral or a mathematical faculty. Fact is fact; and neither morality nor geometry ceases to be objectively grounded from the accident that our ancestors only gradually came to an apprehension of them.

From all points of view, then, we are led to the

same result. Evolutionary science in general, natural selection in particular, does not necessitate, or even indicate, a new system of ethics. It stands logically indifferent between intuitionism and utilitarianism, though from the accident that most expounders of evolution happened to be utilitarians there has arisen a belief that the two were in some way connected. In reality, evolutionary ethics, as hitherto expounded, is nothing but an arbitrary combination of utilitarianism in one or other of its forms with a speculative metaphysics which discovers the ground of mind and conscience in an antecedent physical or nervous mechanism. And as such it not only has no support from evolutionary *science*, but is at the same time exposed to all the objections which the common-sense of mankind has always brought against every empirical theory of morals and every mechanical theory of intelligence.

CHAPTER V.

THE ETHICAL SPECULATIONS OF DARWIN.

From our consideration of the logical bearings of evolutionary science upon the fundamental questions of morals we now pass to an examination of the ethical speculations of Darwin. It will be advisable to begin with an exposition of his views, after which we shall have to inquire into their validity, as well as determine their relation to evolutionary biology. And, for reasons that will be evident as we proceed, the account of the moral faculties must be supplemented by an account of the intellectual faculties.

Darwin himself confesses that the greatest obstacle to the acceptance of the hypothesis which he had framed to account for the phenomena of life lies in the high standard of man's intellectual powers and moral disposition. And his endeavor is to show that the mental faculties of man differ only in degree, and not at all in kind, from those of the lower animals; and that man's moral attainments are, under evolution, the necessary cor-

relate of this superiority of intellectual power. We have now to follow this process of affiliating human reason and conscience upon animal intelligence and instinct.

On the origin of intelligence in our world Darwin disclaims the knowledge which some other evolutionary thinkers profess. In what manner the mental powers were first developed in the lower organisms he holds "as hopeless an inquiry as how life itself first originated." He accepts the facts as he finds them, without professing to explain them. Animals are alive and intelligent; the law of the evolution of life is known; what if the development of intelligence were subject to the same law? If man, physically considered, is just a highly developed animal, is he more on his mental side? Is not his intellect, like his physical organism, the product of natural selection? It must certainly be admitted that, wide as the interval confessedly is between the mental powers of the lowest man and the highest ape, it is not so wide as the interval between the highest ape and a fish like the lamprey or lancelet; and if this latter interval is filled by numberless gradations now in existence, it is not impossible that the blank between the human and the simian mind may once have been covered

by intervening varieties which are now totally extinct. And so far as regards the action of natural selection in the evolution of mind, if, as must be admitted, such slight beneficial variations of intelligence, as may now be perceived to occur among animals and to be inherited by their offspring, occurred in the past history of the world, and gave the individuals so favored an advantage in the struggle for life; then it cannot be doubted that natural selection, which issues in the survival of the fittest, must always have spared the most intelligent animals, and might, therefore, in the course of ages, by perpetuating the transmitted intelligence of countless generations of victorious combatants, have at last evolved such a combination of mental powers as enabled their fortunate possessor, the veritable heir of all the ages, to make weapons for the destruction of his enemies, to use tools for procuring the satisfaction of his own wants, to utter articulate sounds for conveying information to his fellows, and, finally, with many additional accomplishments, to come forth as man, the most dominant of all living creatures, the grandest intellectual and sole moral being in this terrestrial world.

The probability thus established by analogy of general inference, that man's mind is simply a

development from the brute's, differing from it only in degree, is strengthened by Darwin's comparison of the two, as manifested in all the forms of intelligence from blind sensation up to self-conscious reason. In the instincts of self-preservation, sexual love, and mother-love, man and beast do not differ. And since both have the same organs of sense, they agree in sensuous perception. Like man, too, the lower animals feel pleasure and pain, happiness and misery. They experience, also, the same emotions. With them, as with us, terror causes the muscles to tremble, the heart to palpitate, and the hair to stand on end. Courage and timidity we may see in our dogs, good and bad tempers in our horses, rage and revenge in monkeys and other animals. A dog may be as jealous as his mistress, and as fond of praise as the urchin she sends to school. African monkeys have been known to die of grief for the loss of their young.

Great as the animal capacity for emotion therefore is, it does not, however, exceed the concomitant intellectual power. All animals feel wonder, and many exhibit curiosity. Darwin gives an amusing account of the mental struggle which monkeys in the Zoological Gardens underwent, between their instinctive dread of snakes and their

curiosity to peep into a paper bag containing one, which he placed among them. Monkeys have also the faculty of imitation to a wonderful degree. And attention, the indispensable condition of all intellectual progress, is conspicuous in any animal waiting for its prey. Memory, too, they share with us. After an absence of five years and two days, Darwin's dog followed and obeyed him exactly as if he had "parted with him only half an hour before." The power of imagination is evidenced by the sounds and movements of animals during their dreams. And of the highest faculty of the human mind Darwin says, "only a few persons now dispute that animals possess some power of reasoning." For example, the Vienna bear that deliberately made with his paw a current in some water, which was close to the bars of his cage, for the purpose of drawing a piece of floating bread within his reach, must have performed the same inductive reasoning as the lowest savage or the highest scientist.

If it is said, in reply, that man alone is capable of progressive improvement, this must be pronounced doubtful in face of the fact that old animals are harder to catch than young ones; that birds in the course of a very few years cease to kill themselves by flying against new telegraph-lines;

that animals both lose and acquire caution in relation to man and other animals, and that our domestic dogs have attained to moral qualities unknown to the wolves and jackals from which they are descended.

Nor does the capacity to use tools imply, as has been urged, a fundamental difference between the mental powers of man and of other animals; for the chimpanzee, in a state of nature, cracks a fruit somewhat like a walnut with a stone, and troops of Abyssinian baboons have been known to attack their foes, human and simian, by rolling down stones from the mountains upon their heads. So that apes as well as savages use weapons and implements; and though savages now grind and polish stones for definite purposes of utility and defence, as did also their neolithic ancestors, the most primitive men who have left any record of themselves, the men of the palæolithic age, had not advanced beyond the use of rough, unground stones, which differed from the natural tools and weapons of the apes only in being slightly though rudely fashioned.

The possession of articulate speech is regarded by naturalists, like Huxley and Cuvier, and philologists, like Max Müller, as the grand distinctive character of man; but Darwin holds that lan-

guage has been developed from the cries and gestures of the lower animals. The difference lies solely in the infinitely larger power which man possesses of associating together the most diversified sounds and ideas. And this power, like language itself, has been slowly and unconsciously developed by many steps. The beginning of language was not improbably made by some wise ape-like animal imitating the growl of a beast of prey, for the sake of warning his companions of the expected attack—much as at present fowls give one another warning of the hawk, and monkeys utter signal-cries of danger to their fellows. It is true that no existing ape uses his vocal organs for speech; but this entitles us to infer only that his intelligence is not sufficiently advanced. The first speaking progenitor of man must have had far more highly developed mental powers than the chimpanzee or gorilla. But there is nothing in the faculty of articulate speech, so Darwin concludes, which offers "any insuperable objection to the belief that man has been developed from some lower form."

Neither, then, in the higher intellectual faculties nor in language, which has contributed so much to their development, does Darwin find anything to prove that the immense difference

between the mind of the lowest man and that of the highest ape is more than a difference of degree. The moral sense, however, he acknowledges is peculiar to man, and it affords, he maintains, the "best and highest distinction between man and the lower animals." But even this faculty turns out not to be beyond the genetic power of natural selection. For the awful voice of conscience, which silenced the scepticism of Immanuel Kant and compelled him to a belief in the moral communion of man with a supersensible world that pure reason knows not, seemed to the scientific epigon of British utilitarianism only the articulate utterance of the dumb social instincts of the animal world as, in the evolution of animal intelligence, they have been developed, partly by expression in language, but especially by the ever-deepening consciousness, inevitable to an advancing intellect, of the greater persistency of social instincts in comparison with all other impulses to action. The social instincts of the animal are by the purging rays of ascending intelligence transmuted into a conscience. That sensibility of honor which feels a stain like a wound is only the far-off tremor of a sympathetic chord whereby some ancestral group of animals, in the dissonant strug-

gle for existence, became harmoniously united in a common and a victorious defence.

"Any animal whatever," says Darwin, "endowed with well-marked social instincts, the parental and filial affections being here included, would inevitably acquire a moral sense, or conscience, as soon as its intellectual powers had become as well, or nearly as well, developed as in man." Not that any social animal, with the same mental faculties, would acquire exactly the same moral sense as ours; for the nature of the moral sense is determined by the conditions of the animal's life. If, for instance, men were reared under precisely the same conditions as hive-bees, they would possess a conscience which required unmarried women, like the worker-bees, to kill their brothers, and mothers to kill their fertile daughters.

Conscience, or the moral sense, being, according to this theory, derived from sociability, it may be worth while glancing at the operations of that instinct in the lower animals. That animals are social we may see in our horses, cattle, and sheep, in rooks, jackdaws, and starlings, in creatures as far asunder as ants and monkeys. The most common mutual service of the higher animals is to warn one another of danger. As danger-signal,

rabbits stamp on the ground with their hindfeet; and the chamois, as the hunter in *Tell* knows, stamp with their forefeet, whistling at the same time. Animals also assist one another in sickness or distress, even at the risk of life. An Abyssinian baboon once returned alone to a pack of dogs that had driven off his troop and carried away a young baboon which, left behind in the rout, was calling piteously for aid. Besides love and sympathy, social animals exhibit self-control, fidelity to one another, and obedience to the leader. The complex tissue of sociability is probably an extension of the parental and filial affections, originating, like them, in the action of natural selection. Under the same imperious law, sympathy, too, has been developed, if not acquired; for the most sympathetic animals would flourish best and rear the greatest number of offspring. In case of a conflict between impulses or instincts, it is manifest that in the struggle for life the one most beneficial to the species must in the long run triumph. What if conscience were but such a persistent social instinct? We must turn to man to see.

Man is a social animal. And if we may argue from the analogy of the majority of the quadrumana, his ancestors as far back as the simian stage

were social likewise. He inherits, accordingly, a tendency to be faithful to his comrades and obedient to the leader of his tribe. But his sympathetic impulses are not, as in some lower animals, crystallized into special instincts which define his action under all circumstances. Reason and experience must, at least in later stages, be the main guides of his conduct. But as he is a sympathetic animal, he must also be influenced greatly by the wishes and opinions of his fellow-men, whose approbation he courts, whose blame he strives to avoid. This motive to conduct would be at its strongest when reason was at its weakest. Hence, while the rational philosopher of modern times makes little of the opinion of others, and, feeling himself the supreme judge of his own conduct, sets his heart against violating in his person that dignity of humanity of which he believes himself the bearer, his savage ancestor, ignorant of the sentiment of humanity, has just reason enough to recognize the force of public opinion in the set of individuals with whom he happens to be associated, without any thought of the rest of mankind, or with the thought of them only as enemies. The social instinct, developed in the struggle for existence through natural selection, must, willy-nilly, have been the supreme law of

life for primitive man as for his ape-like forefathers.

It is now in this abiding sympathetic impulse, acquired through natural selection for the good of the community, that we must seek the origin of the moral sense, or conscience. Already in its persistency over other impulses we may discern a basis for the supremacy of the moral law. A permanent and strong instinct in the presence of an evanescent impulse awakens a feeling of obligation, which we express by saying that it *ought* to be obeyed. "A pointer dog, if able to reflect on his past conduct, would say to himself, 'I ought (as, indeed, we say of him) to have pointed at that hare, and not have yielded to the passing temptation of hunting it.'" But this prerogative of approving and disapproving is what constitutes man a moral being—the sole moral animal. It is, as it were, a voice lent by intelligence to the dumb instincts and impulses to action that struggle in the breast of every animal. Why, then, is conscience *more* than a simple expression of the motives at play? If the instinct of self-preservation or of vengeance has triumphed over the social instinct, why does a man regret that he followed the one natural impulse rather than the other, and why does he further feel that he ought

to regret his conduct? Here is a profound difference between man and the lower animals; but Darwin finds an explanation of it in the immensely superior development of man's mental faculties.

Reflection is an unavoidable incident of an intelligence so highly developed as man's. Images of all past actions and motives would pass incessantly through the mind of the earliest human being. With him, as with other social animals, the sympathetic instincts would be ever present and persistent; while the instincts of self-preservation and hunger, or the impulse to vengeance, are in their nature transitory, or scarcely ever present to consciousness. Accordingly, when an impulse to vengeance has mastered man's social instincts, he reflects and compares the now fading idea of this impulse with the ever present social instincts. On one side he finds the gratification of vengeance at the cost of his companions; on the other, the outgoings of his own ever present spontaneous sympathy, re-enforced with the knowledge that his comrades consider it praiseworthy; and the consequence is that that feeling of dissatisfaction which invariably results from any unsatisfied instinct now arises, as soon as it is perceived that the enduring and always present social instinct has yielded to

some other instinct, at the time stronger, but neither enduring in its nature nor leaving behind it a very vivid impression. Thus retribution comes when the strong impulse which impelled to revenge has grown weak in memory and seems as nothing before the ever-enduring social instincts and the desire to stand well with others. Hence regret, remorse, and penitential tears. And the poor sinner will "consequently resolve, more or less firmly, to act differently for the future; and this is conscience, for conscience looks backward and serves as a guide for the future." This conscience, which thus springs by reflection out of the sympathetic impulses to action, is moulded by the approbation and disapprobation of others, the appreciation of which also rests on sympathy; and after the power of language has been acquired, the expressed will of the community naturally becomes the paramount guide to individual action. Habit further confirms the individual in virtuous conduct, until at last such perfect self-command is acquired that he yields instantly and without a struggle to his social sympathies and instincts, including his feeling for the judgment of his fellows. It is probable that the habit of self-command, so laboriously attained, may be transmitted to offspring. And thus man

finally comes to feel, through acquired and, perhaps, inherited habit, that it is best for him to obey his more persistent impulses. These alone give meaning to the imperious word *Ought*, which "seems merely to imply the consciousness of a rule of conduct, however it may have originated."

Such is Darwin's famous theory of the moral sense. Its significance for speculative ethics is a sufficient justification of the detailed account here given of it—an account I have striven to make accurate, often by reproducing the very language of the original. The next consideration is, whether an unprejudiced seeker after truth can rest in Darwin's theory as a satisfactory philosophy of morals.

One thing must be stated at the outset. Darwin's treatment of the phenomena of morals differs essentially, not only from his treatment of the phenomena of life, but also from his treatment of the phenomena of intelligence. Nor is the contrast difficult to explain. Life, as all admit, is common to man and the animals; and, as Darwin adduced grounds for believing, there is no fundamental difference between human and animal intelligence. Now, if Darwin's aim was to break down the wall of partition which unscien-

tific dogma had erected between the various species of living beings, it was not necessary for him to inquire into the absolute beginning of life or of intelligence; and, as we have already seen, this problem he specifically set aside. It sufficed for his purpose that human and other animals were alive and intelligent, however they may have become so; and the only question he set himself was how, beginning with the lower forms, the advance in physical and psychical organization had been effected. But even to this restricted question his answer is, as we have found, a mixture of science and nescience. By far the most important part of the process of evolution is veiled in inscrutable mystery. The development from lower to higher life and intelligence has not been sudden, but gradual, we are told; yet we no more comprehend the cause of the one than of the other, and ultimately fall back upon a belief that it is because organisms have innate tendencies to vary. But *that assumed*, everything is assumed; for natural selection, which Darwin discovered, is only the name for the survival of the fittest among all those forms which nature so mysteriously flings forth. What Darwin, therefore, maintains of organization and intelligence amounts only to this: given the lower phases, there is somehow

a progress to higher phases, the best of which natural selection is constantly preserving. But in the moral world he finds no such common starting-point. He does not pretend that the phenomena of conscience, like those of life and mind, are alike exhibited by man and brute. Had he done so, he might here, too, have contented himself with the assertion of a development from the one to the other by means of natural selection, leaving the essence of the process as mysterious as he left it in the case of life or mind. And to this assertion, were it supported by analogous facts, no one could have objected who accepts his theory of the evolution of life. The germ, he might have said, however it originated, somehow grows into the various forms of animal conscience, and at last culminates in the conscience of man; and the distance between the moral sense of the highest animal and the lowest man, he might have repeated, is not greater than that between the lamprey and the dog. Unfortunately, however, for the consistency of this scheme, he finds no animal conscience. With the recognition of that blank, one might suppose the author of the theory of natural selection, with his habitual caution, would venture no farther. But the combined in-

fluence of an inherited empirical psychology and ethics and a newly discovered evolutionary biology proved too fascinating even for the cautious, fact-revering Darwin. Since there is no animal conscience to begin with, and since man's has to be "accounted for," one must be manufactured as its antecedent. Darwin accordingly takes sociability, which is common to man and beast, as one element, and for the other element, high intelligence, which is peculiar to man; and from their combination, by a kind of psychological chemistry, gets you a primitive conscience. Elsewhere the famous scientist lays before you different species with their intervening forms, many of which he has himself actually produced; and from a survey of all the facts concludes there is no absolute distinction between them. But here he treats you to an imaginary psychology—imaginary facts and imaginary processes, which have no other warrant than his own preconception of the derivative character of the moral faculty. The sure-footed investigator here roams at random over an impalpable void that offers no foothold; and soaring in his flight, you may follow, but cannot catch him. He has deserted the kingdom of fact, which no mortal had ever half so well mastered, and, in an incautious moment, embarked upon the

barren seas of speculation, with all their shoals and quicksands, "where armies whole have sunk."

This departure, in the case of morals, from the scientific method of the "Origin of Species" is certainly very remarkable, though no one, so far as I know, has ever called attention to it. Had Darwin, I repeat, treated conscience as he treated the mental faculties, there would have been no ground of complaint. His mental philosophy may be summed up in the statement that the various grades of intelligence shade into one another so imperceptibly that it is not possible to distinguish them absolutely, even at the point where the animal differentiates into the human mind—an interval which, moreover, is not greater than that between the intelligence of the fish and the intelligence of the elephant. This may or may not be a tenable contention; but it is at least supported by facts, and so amenable to refutation. It seems to me false from omissions rather than in the positions it specifies. For, supposing the difference between the canine or simian mind and the mind of a savage to be no greater than the theory requires, there is, nevertheless, a pertinent distinction too significant to be passed over in silence—the one is capable of appropriating the accumulated knowledge, culture, and civilization of the most ad-

vanced spirits; the other is not. This *capacity for development* should count for something in framing a genealogical table. And that I have not overestimated it is evidenced by the unconscious testimony of Darwin, who, speaking of the Fuegians as the "lowest barbarians," yet adds: "I was continually struck with surprise how closely the three natives on board H. M. S. Beagle, who had lived some years in England and could talk a little English, resembled us in disposition and in most of our mental faculties." As he is, the native Fuegian may not be much more intelligent than an elephant; but then, he is *capable of becoming* so much more!

Still, whether Darwin is right or wrong in this matter does not now concern us. My present point is, that in his mental philosophy he makes no attempt to *derive* any of the mental powers. He takes them as he finds them, and studies their different manifestations and gradations. Man has more reason than the monkey: Darwin notes the fact without pretending to explain whence that reason came or what the essence of reason is. The lancelet has no imagination; the dog has: Darwin recognizes the appearance of a new power in the more developed animal without professing to account for its entrance upon the field. Had

he in the same way disclaimed any knowledge of the origin and the essence of conscience (whether taking it for a uniquely human endowment or not) his moral philosophy would have had the same scientific character as his mental philosophy. Whether he held that the moral faculty first appeared in man or germinated in some lower animal, his position would be of the nature of a scientific hypothesis which could be adjudged by the facts. But when, in violation of his own invariable practice elsewhere, he here professes to show us the non-moral material out of which the moral faculty was manufactured, and the very process of its making, we cannot resist the suspicion that he has fallen upon the vain problem of trying, as Lotze put it, to find out how existence was made.

This attempted derivation of the moral faculty by Darwin has, it will now be seen, no connection, either in matter or in method, with that biological science which is often designated Darwinism. We must distinguish, henceforth, between Darwin the ethical speculator and Darwin the observer and interpreter of facts in natural history. The lack of this distinction has led to endless confusion. Naturalists have supposed that Darwin's biology carried with it his theory of conscience,

while moralists, repudiating the latter, thought they were called upon to demolish Darwinian science. What a chaos of absurd disputation has been thus engendered, the Darwinian literature of the last generation too abundantly evinces. These fruitless contentions arise from a misconception which is clearly evident in the light of the preceding chapters. That mass of fact and theory which naturalists and moralists have imagined unitary is really twofold, with two distinct centres of gravity. Without maintaining, in general, in opposition to Mr. Herbert Spencer, that biology has nothing to do with ethics or ethics with biology (though this is not incapable of demonstration), we do assert with the greatest confidence that, even if Darwin's theory of the origin of species and descent of man is sound, his speculations on morals will not, therefore, be sustained or confirmed, since the two rest on wholly different bases, which are at no point coincident, and which no reasoning can bring together.

The absolutely unique treatment which ethical phenomena received at the hands of Darwin may be still further illustrated in yet another way. It has been shown already that, in his own province of natural history, Darwin makes no attempt to derive that life whose mysteriously expanding

phases he seeks to arrange in a graduated scale. But besides mere life there is spirit, with its powers of apprehending the true, the good, and the beautiful. And with regard to those mental powers which, conversing with reality, seize upon the truth, we have found Darwin registering their progressive manifestations without any pretence of accounting for their origin. The logical faculty, the mathematical faculty, he accepts as ultimate facts; and whether they are comparable with animal activities or not, he recognizes the futility of pretending to show how they came into being. The same holds of his treatment of the sense of the beautiful. Without attempting a genesis of the æsthetic faculty, he contents himself with observing, among animals in all stages of development, actual instances of perception of the beautiful. And a wonderful collection of facts he makes, as fascinating as novel and fresh! The observations constitute the decisive moment in his theory of sexual selection. As natural selection turns upon the success of both sexes in the struggle for life, sexual selection depends upon the success of certain individuals over others of the same sex in relation to the propagation of the species. Among nearly all animals there is a struggle between the males for the possession of

the females. The slightest favorable variation would enable the victorious possessor to propagate it, be it a modification adapted to destroy rival wooers or to win the coveted female. To the first class belong those weapons of offence and defence—the courage and pugnacity, the superior strength and build—in which most males differ from the females. Still more interesting is the second class. For courtship among the lower animals is far from being simply a matter of brute force. The females appear to have much more freedom of choice than the women of the lowest races of mankind. The male, therefore, has not only to conquer his rivals, but to win the female. And the female, such is the animal sense of beauty, is most excited by, or prefers pairing with, the more ornamental male, or the male which sings best or plays the best antics. Hence, in a state of nature, the females by a long selection of the more attractive males have gradually added to their beauty or other attractive qualities. And Darwin shows in a most ingenious manner how, owing to female susceptibility to beauty, the charms of the males of the most different orders and species have been acquired through sexual selection. His illustrations fill a volume, but none of them are more delightful than those refer-

ring to the ornaments of male birds—their brilliant tails, their combs and wattles, their gorgeous plumes, their elongated feathers, their top-knots, and so forth.

There is no need, however, of here following farther Darwin's theory of sexual selection. It is alone with the animal sense of the beautiful, on which the theory rests, that we are now concerned. That faculty, be it observed, Darwin accepts as he finds it, ready-made; his task is merely to trace its operations in the various orders of ascending life. What may be the nature and the source of the psychical organization that enables beings to perceive the beautiful, Darwin no more considers than the cognate question concerning the powers that apprehend the true. But when he treats of the faculty that discerns the good, *i.e.*, conscience, he undertakes to show us *whence it came* and *how it was made!* This unique innovation in method is tantamount to a transition from science to speculation.

Darwin's conjectural ethics, then, we may now conclude, is wholly unsupported by his observational biology.

The next question is, How does the theory accord with the facts? Surrendering the undeserved prestige they have hitherto enjoyed from

association, through an illustrious name, with evolutionary science, are the ethical speculations of Darwin in themselves tenable? To answering this question the rest of the present chapter must be devoted.

The centre of gravity of Darwin's hypothesis is the assertion that conscience is the product of well-marked social instincts and advanced intelligence. Given these, "any animal whatever," so he tells us, "would inevitably acquire a moral sense, or conscience." This proposition we have now to examine. We want to understand how and why conscience is begotten of intellect and sociability.

Conscience, as popularly conceived, is a term of somewhat vague signification. It comprises intellectual and emotional phenomena, standing at once for the power that discovers and enforces the good and avenges its violation or rewards its observance. It is aptly described, in Butler's felicitous confusion, as a sentiment of the understanding and a perception of the heart. But what common-sense thus unites, analytic philosophers have disjoined. One school holds that conscience has a purely intellectual function, the recognition of moral law; another insists it is nothing but feeling, a pain more or less intense attendant on

violation of duty. It matters little in what sense this or any other term is used in philosophical literature, provided only the definition be given, though there is a manifest advantage in keeping as close as possible to popular usage. What is of importance is that in fixing the connotation of words the things to be named shall not be overlooked. And that all the moral phenomena referred by the vulgar to conscience actually exist will not be questioned by any thinker (whatever his definition of the word conscience) who has ever perceived one course of action to be right and another wrong, who has recognized the authority of the right over him, and who, on defying the right and choosing the wrong, has experienced the pangs of remorse.

As Darwin supplies us with a theory of the genesis of conscience, it is necessary to determine what he means by that term. Is the function of the Darwinian conscience the perception of right and wrong, or the recognition of the authority of the right, or the remorse that follows upon violation of that authority? Is it any or all of these?

To this question I find it difficult to obtain a definitive answer. Darwin was a naturalist; and the natural sciences of which he was master do

not stand in need of such precise definitions as the more complex sciences of mind. Besides, for all but experts, definitions of mental phenomena are exceedingly difficult to frame. Perhaps we may thus explain the ambiguity in Darwin's use of the term conscience. In the fourth chapter of "The Descent of Man" we are told, in the opening sentences, that "the moral sense, or conscience, . . . has a rightful supremacy over every other principle of human action; it is summed up in that short but imperious word *ought*, so full of high significance." But in a later passage we hear "of the moral sense, which tells us what we ought to do, and of the conscience, which reproves us if we disobey it." Further, conscience is described as an "inward monitor" urging towards "one impulse rather than the other," and again, in the same paragraph, as a "feeling of right or wrong." To complete the confusion it is once more coupled with remorse; and the man who has been visited with this retribution will, according to Darwin, "consequently resolve more or less firmly to act differently for the future; and this is conscience, for conscience looks backwards and serves as a guide for the future."

No logic, I apprehend, can extract from these

descriptions a consistent definition of conscience. Yet, without it how are we to test Darwin's theory of the origin of conscience? One way is still open. Though we are unable to determine from Darwin's statements the character of the phenomenon to be produced, he yet furnishes us with the elements and the process of its production. These we may study in the expectation of discovering the nature of their result. Given sociability and intelligence as generating factors of x ("conscience"), the problem is to find x. I repeat, we ought to know what is meant by conscience, since this is the phenomenon whose genesis we seek; but, failing that, nothing remains but to assume the agencies and operations posited by Darwin, and then examine what they can produce and what they are incapable of producing.

Turning to the famous chapter already mentioned for Darwin's account of the subject, we learn there is a "main point, on which . . . the whole question of the moral sense turns. Why should a man feel that he ought to obey one instinctive desire rather than another? . . . Why does he regret having stolen food from hunger?"

This problem presents no peculiar difficulty to

anybody not pledged to a system of derivative morality. The answer is simple enough. Man perceives some desires to be higher or nobler than others, he recognizes an obligation to admit the better and exclude the worse, and he cannot defy this authority without incurring the penalty of remorse. Admit there is a scale of worth and authority among our impulses to conduct, as well as an order of intensity, and the whole difficulty vanishes. This, however, is what our current evolutionary school, for reasons more conceivable than cogent, has persistently declined to do. The undeniable deliverances of consciousness are in some way to be "accounted for," as though you could explain why the whole is greater than its part, or twice two four, or benevolence more excellent than envy!

Let us consider Darwin's solution of the problem he has raised: "Why does man regret that he has followed one natural impulse rather than another?"

In all such cases, according to Darwin, regret is the concomitant of a violation of the social instincts on the part of the selfish instincts. It cannot be due to the greater strength of the former, for, as a matter of fact, the social instincts in man are not stronger than the instincts of self-preser-

vation, hunger, etc.; and were they stronger, it is not easy to see how they could ever have been overpowered by the weaker. But "the social instincts are ever present and persistent." And a being with mental faculties as high as man's cannot avoid reflecting upon past actions and motives, and comparing the satisfaction of hunger, vengeance, etc., at other men's cost, with the almost ever present instinct of sympathy, which "forms an essential part of the social instinct, and is indeed its foundation-stone." Now, such desires as hunger, vengeance, and the like, are in their nature of short duration; and after being satisfied, are not vividly recalled. Hence, when the images of these past and now weakened impressions are compared with the ever enduring social instincts, and with public opinion, the thief, or avenger, will feel as if he had been balked in following a present instinct or habit, and find himself the prey of remorse, regret, or shame.

It is not conscience, therefore, as popularly understood, but only remorse, whose genesis Darwin is really tracing. Does he succeed even in this limited endeavor?

The plausibility of the deduction is due to the assumption that "the social instincts are ever present and persistent," while hunger, vengeance,

lust, etc., are not. What Darwin maintains about these last impulses is psychologically true: they may be readily and completely gratified, and neither the attendant pains nor pleasures are susceptible of vivid representation in consciousness. And, on the other hand, the influence upon the individual of the social organism or social factor seems scarcely capable of exaggeration to those who have taken to heart the teachings of Herder and the great German thinkers of the eighteenth century, or of Comte, Mill, and Lewes in the nineteenth. Nevertheless, when the social principles of conduct are enumerated one by one, no one would venture to assert that compassion, benevolence, gratitude, justice, veracity, or humanity, is an "ever present and persistent instinct." Man is moved both by egoistic and altruistic springs of action, and no psychology would imitate the Darwinian irony of making the latter the more enduring. On the contrary, as in the Darwinian theory, the instinct of self-preservation comes earliest; and as the filial, parental, and social instincts are derived from it by means of natural selection; there would be grounds for maintaining that the one omnipresent and persistent impulse is the egoistic one of self-preservation. At any rate, it is only through the illicit comparison

of one *whole class* with *some of the individuals* composing another that Darwin wins a primacy for the social instincts. Compare compassion or gratitude with lust or hunger, and you would not say that the individual social impulse is more persistent or enduring than the individual selfish impulse; or compare the whole class of social instincts with the whole class of selfish instincts, and, again, you find no difference in the times of their presence or persistency. Take, on the other hand, the entire species of social instincts and only two or three individuals from the selfish group, and, of course, you may predicate of the former a more constant presence and greater persistency. It is, now, by this utterly fallacious procedure that Darwin gains the fundamental proposition in his deduction of the moral sense (that is, as we have seen, remorse). Instead of granting that the social instincts exclusively are ever present and persistent, we must maintain they have no title to those predicates which cannot be urged with equal or greater validity on behalf of the selfish instincts.

But even if Darwin's assumption that the social instincts are ever present and persistent were conceded, it would not enable him to educe conscience or remorse. For, suppose these instincts

located in a being of high mental powers—and that is all the theory postulates—what is there to carry the non-moral possessor over into the status of a moral agent? Evolutionists of the current school are apt to slur over this step, and the hiatus is not observed by their readers because, for the most part, they fail to realize that the moral has here been made to emerge, not from an antecedent kindred germ, but from the absolutely non-moral. When Darwin tells them that a highly intelligent being, reflecting upon the past triumphs of lust, vengeance, or hunger, over more benevolent impulses, cannot escape the bitterness of remorse or shame, they assent to the proposition as expressing a fact of their own experience. But they overlook the all-important difference that they are already moral beings, and that the highly intelligent animal Darwin speaks of is not. Why, then, should this non-moral intelligence experience remorse? The selfish instinct of hunger or lust had its way only because it was at the time stronger than the social check. And in this superior intensity a reflecting, non-moral being could not fail to find its justification. Had the more powerful impulse been restrained, there would have arisen (to appropriate language of Darwin's) "that feeling of dissatisfaction, or

even misery, which invariably results from any unsatisfied instinct." And as this misery is proportionate to the intensity of the impulse suppressed—greater when this is stronger, lighter when it is weaker—every reflecting being, uninfluenced by moral considerations, and governed, therefore, only by a Benthamite calculus of pleasures and pains, would be driven to the inevitable conclusion, that true wisdom consisted in following the strongest impulse (except when it might entail a future balance of pain—a contingency rarer for non-moral than for moral beings). The case may be represented as follows: At a certain moment in the past, a selfish instinct, being stronger than a social instinct, was gratified by the corresponding conduct, and produced a clear surplus of pleasure over the pain attendant upon the violation of the weaker social instinct; had the latter been satisfied to the suppression of the former, there would, for the same reason, have been a surplus of pain over pleasure. This actual state of things, now, cannot be altered by the most arduous reflection upon it. Hence those images of past actions and motives which, according to Darwin, incessantly pass through the minds of highly intelligent animals must, so far as this particular case is con-

cerned, generate a pleasurable consciousness akin to that formerly produced by the remembered events themselves.

The non-moral intelligent being, then, that followed the strongest impulse, be it an egoistic or an altruistic impulse, would have the best reasons for self-gratulation. One consideration, however, as already hinted, might suffice to give him pause. The strongest instinct, though producing the most pleasure momentarily by its gratification, might not produce the greatest surplus of permanent pleasure. And if so, this would be a reason for a non-moral being suppressing it. But Darwin makes no such supposition; nor would it in the least serve his purpose. For his problem is to generate conscience, and he rightly saw that, though a non-moral being who preferred a momentary to a permanent pleasure might, on reflection, deem himself short-sighted, imprudent, or even foolish, such a being could have no experience of that heart-breaking emotion of remorse which Darwin identifies with conscience.

Darwin makes remorse the concomitant of the recollection of suppressed social instincts; yet in the results, actual or possible, entailed by the suppression we find no ground for remorse, while as regards the act of suppression, due as it was

to the pleasure-giving triumph of a selfish instinct, we have seen that a non-moral being, reflecting upon it, could have no other feeling than self-complacency. But (it will be objected) the non-moral being who formerly gave way to selfishness is supposed by Darwin to be, at the moment of reflection, under the influence of the ever present and persistent social instincts and sympathies; and it is in their reinstalled light that the former outburst of egoism now appears shameful and fills the reflecting agent with remorse. This supposition, which is manifestly borrowed from the experiences of a *moral* being, presupposes one of two conditions, either of which is absolutely destructive to the ethical hypothesis of Darwin. If reflection upon violated social instincts could engender such sentiments in a non-moral intelligence, either the reflection is very inadequate or a worth is attributed to the social sentiments hitherto denied them by the theory. Suppose the reflection thorough and complete, then what avail the solicitations of present sociability to color and distort the images reflection evokes? A developed intellect will not confound the present with the past, or foolishly dream that, because at this moment a triumph of the social instincts would be pleasur-

able, it would always have been pleasurable in the past. It could not but recall that just as at present the social impulses happen to be dominant, so at other times hunger, vengeance, and lust happen to be dominant; and to slip the one force is as natural and as praiseworthy, from this non-moral point of view, as to slip the other. But the social instincts, says Darwin, are more present and enduring than the selfish instincts. Even if this contention, which I have already adduced grounds for rejecting, be for the moment conceded, it will not help out the demonstration. For you cannot argue that because selfish impulses do not come so often or stay so long as social impulses, they have therefore less right to the field when they actually do put in an appearance. Granting that the times of sociability are greater than the times of selfishness, this *time-measure* does not explain why I feel remorse over acts of vengeance or robbery. And if the meaning is that I shed penitential tears over them solely because I am at present transported by a wave of sociability, this would lead to the absurdity that when the egoistic instincts had the upper hand, reflection would then produce remorse for previous acts of benevolence and compassion involving sacrifice to myself!

Thorough-going reflection, then, will not generate remorse in a being that recognizes no difference in impulses to action except degrees of duration and intensity. The Darwinian hypothetical moral ancestor does feel remorse. He must therefore have already arrived at a perception of the relative worth of competing springs of conduct. What Darwin calls the social impulses this incipient moral agent already recognizes as higher and nobler than what Darwin calls the selfish impulses. The one has a claim upon him, the other has not. That claim, the mute though awful appeal of goodness to a free moral agent, he may defy; but, unless his heart is hardened, that defiance brings the terrible yet blessed retribution of remorse. How all this is so, why all this is so, we know not. Voltaire's words deserve, in these days of derivative and genetic philosophy, to be written in letters of gold: "What inconsistency! We know not how the earth produces a blade of grass, or how the bones grow in the womb of her who is with child, and yet we would persuade ourselves that we understand the nature and generation of our ideas."

Darwin attempts to derive remorse (which he calls "conscience") from measuring sociability against selfishness in the mind of a non-moral

being. The derivation, I think we have shown, is a failure. It becomes plausible only when we grant, as Darwin does not, *though the reader generally does*, that our hypothetical ancestor has an intuitive perception of the superior excellence of social over selfish instincts. And so it appears that it is this inderivable moral consciousness, this sense of right and wrong, this conscience, and not any psychological play of egoistic and altruistic impulses to action, that constitutes at once the possibility and the foundation of remorse. Darwin's derivation of it turns out a gigantic *ὕστερον πρότερον*.

CHAPTER VI.

THE DEVELOPMENT OF MORAL IDEALS AND INSTITUTIONS, WITH SPECIAL REFERENCE TO THE FAMILY.

The history of moral ideals and institutions, though hitherto ignored by moralists, seems to me the most important topic in the whole realm of ethics. Therein is to be found, along with a fuller comprehension, the solution of many of those vexed questions which have never failed to stimulate, and have always baffled, the ingenuity of all the schools of analytic philosophers. To have aroused interest in a matter so significant is no trifling addition to the crown of Darwin's glory. But it was really almost by accident that Darwin stumbled upon the subject. As Saul, the son of Kish, was looking for his father's asses when he found a kingdom, so Darwin, the epigon of speculative utilitarianism, was casting about for supports to his more than dubious theory of conscience when his glance fell upon this vast, prom-

ising, though yet uncultivated domain of historical ethics. Indirectly, indeed, he suggested the way which a positive "science" of ethics would have to follow; but for himself, he remained an ethical speculator of the old-fashioned type, with all the preconceptions and with the same complacent confidence of the derivative school whose traditions he had inherited. But his procedure enables us to illustrate, in a concrete instance, the difference between science and speculation in ethics. The observation and classification of ethical facts, whether manifested in the individual or in the race, constitute the business of the "science" of ethics; all else is hypothesis, speculation, fancy. The phenomena of the individual moral consciousness, Darwin presumably turned over to the writers of systematic text-books; and the phenomena of the historical development of morality among mankind he drew upon only to illustrate his speculations on the origin of conscience—speculations which he followed his school in supposing the principal subject-matter of ethics. From infection with this speculative spirit evolutionary moralists have not yet recovered, and they still put upon us as "science" conjectures and phantasies as far removed from fact as the republic of Plato or the paradise of Mil-

ton. This must serve as excuse for repeating here the main conclusion of our first chapter—namely, that ethics, if it is to become truly a science, must shun the path of speculation and follow closely the historical method.

The citation of facts from savage morality, though merely for purposes of illustration, constitutes, I have said, Darwin's most worthful contribution to morals. His speculative ethics is, indeed, generally supposed to be an organic part of that evolutionary science whose basis he laid in biology; but it has been shown in the preceding chapters that Darwinian biology is absolutely indifferent to every philosophy, and has no more logical connection with the metaphysical and ethical views that have been grafted upon it by Darwin and others than with the opposite views. Further, it has been shown that, in themselves considered, Darwin's ethical speculations, whether judged by their internal self-consistency or their adequacy to the external facts, are wholly unsatisfactory and untenable. To the arguments on which these conclusions were based we need not here recur. But another point remains, which might, indeed, be passed over in a mere examination of Darwinism, but which, as it is suggested by Darwin's appeal to savage morality, cannot be

beyond the scope of our present inquiry, while it is, besides, of such transcendent significance for the future of ethics that I could not in any case decide to omit it altogether. I allude to the bearing of the history of morality among civilized and uncivilized races upon current systems of moral philosophy. What light does our present knowledge of the development of moral conceptions, ideals, and institutions among mankind throw upon that fundamental problem of ethical speculation, the nature of the moral law?

This question, unfortunately, has not hitherto been considered in exclusive relation to the historical facts. As was inevitable from the lack of a positive science of ethics, founded upon the actualities of history and of life, it was prejudged by theoretical moralists according to the speculative standpoints which they happened to occupy. Now, as all the diversities of ethical thought may be reduced to two main types, represented respectively by the hedonistic and the intuitive schools, the facts of historic morality were forced into the service of these opposing systems. According to the one party, they showed that morality, in itself eternal and immutable, was universally recognized and practised among men; according to the other party, they confirmed the theory

that moral laws were but the empirically established prescripts for securing the largest *quantum* of pleasure to the greatest number of individuals. It may indeed be questioned whether historical ethics ever really touches, much less confirms, the point which either of these parties has most at heart. If the main issue between them turns upon the question of the chief end of life, the *summum bonum*, then whether it is pleasure, as the hedonist assumes, or goodness, as the intuitionist assumes, cannot, I apprehend, be determined by a study of the morals of savages and barbarians any more than by a study of the morals of Christians. And if the issue turns rather on the absoluteness or relativity of the moral law, then if by "absolute" is meant valid for all spirits, human and divine, and if by "relative" is meant dependent upon circumstances, I do not see how comparative morals, in this case either, can decide the controversy. But if, dropping these speculative puzzles, we shift our position altogether and raise the simple inductive inquiry, What acts have men everywhere and at all times considered right or wrong respectively, and what acts have some considered right or indifferent and others wrong? tables of agreement and difference can be drawn up to

show what mankind at least has regarded as the essential content of the moral law (and some explanation might even be suggested of the divergence in the outlying area beyond this common circle), though we should still be unable to say whether the end of life was pleasure or something else, or how this common human morality might be regarded by other spirits, as, for example, by God. For the rich harvest which this treatment of the moral field is sure to yield we shall have to wait until the spirit of science has exorcised the spirit of speculation from our contending schools of ethics. Only a single plot of the field has as yet been cultivated, and that not by moralists, but by anthropologists, philologists, jurists, historians, and observant travellers. I may mention especially the works of McLennan, Morgan, Tylor, Lubbock, Herbert Spencer, Sir Henry Maine, Robertson Smith, Hearn, Lyall, Letourneau, Coulanges, Schmidt, Ploss, and Lippert. The investigations which they have conducted, within recent years, into the origin and development of the family relations constitute an important chapter in the yet unborn science of historical ethics.

Among all the virtues, none is more sacred to Christendom than chastity, and none has been

supposed more primitive in its history or intuitive in its nature. The views and sentiments entertained by all Christian nations toward it are expressed at once, with accuracy of delineation and nobility of style, in a fine apostrophe in the fourth book of Milton's "Paradise Lost:"

> "Hail, wedded love, mysterious law, true source
> Of human offspring, sole propriety
> In Paradise of all things common else!
> By thee adulterous lust was driven from men
> Among the bestial herds to range; by thee,
> Founded in reason, loyal, just, and pure,
> Relations dear, and all the charities
> Of father, son, and brother, first were known.
> Far be it that I should write thee sin or blame,
> Or think thee unbefitting holiest place,
> Perpetual fountain of domestic sweets,
> Whose bed is undefiled and chaste pronounced,
> Present or past, as saints and patriarchs used.
> Here love his golden shafts employs, here lights
> His constant lamp, and waves his purple wings,
> Reigns here and revels; not in the bought smile
> Of harlots—loveless, joyless, unendeared,
> Casual fruition."

In this sublime passage are voiced assumptions that were universal in Milton's time and all but universal to-day. It is implied that in the beginnings of human life, while everything else was common, women were already individually appropriated by men, or, in other words, that mo-

nogynous and monandrous marriage obtained; it is further implied that this is the only natural form of relation between man and woman, Hymen excluding the very idea of casual connection; and it is finally implied that from this exclusiveness in "wedded love" alone could spring a tree of family relationship with its flower of domestic virtues. Whether these assumptions are facts, or uncritical dogmas having no other support than the inertia of incurious tradition, is the first question we have to consider. And should it appear from the investigating torch of history that the assumptions are illusory, we should then have to determine in what way theories of ethics were affected by the discovery. Having rejected Darwin's supposition of a metamorphosis of the absolutely non-moral into the moral, it would be incumbent upon us to find some other interpretation of the late emergence of chastity, should history show that chastity was not at the first universally recognized as a virtue.

The first scientific study of the history of marriage was made by the late Mr. J. F. McLennan in an interesting and highly original work, published in 1865 under the title of "Primitive Marriage," and republished in 1876 as "Studies in Ancient History." The object of the work is

to determine the development of conjugal relations among mankind by an examination of the origin and meaning of the symbol of capture in marriage ceremonies. The next epoch-making work was Mr. Lewis H. Morgan's "Systems of Consanguinity and Affinity of the Human Family," which appeared in 1871 in the "Smithsonian Contributions to Knowledge" (vol. xvii.), and was afterward reproduced in a condensed and more readily available shape in "Ancient Society" (pt., iii., pp. 383–521). It is an attempt to trace the growth of the family by a comparative study of the methods of reckoning relationship. These investigations into the early history of the family are in themselves so valuable, and in reputation so classic, that we cannot do better than set out with them. They give us facts and theories together; but it will not be hard to separate these and form an independent judgment on the amount of support the facts give to the theories.

McLennan starts with the existence and prevalence of the form of capture in marriage ceremonies. It must be a survival, he thinks, of a system of actual wife-stealing. If the members of a tribe were allowed to marry within the tribe—that is, in the felicitous mintage of Mc-

Lennan, if the tribe is *endogamous*—the symbol of capture could not conceivably come into being. But if marriage within the tribe were prohibited —that is, if the tribe were *exogamous*—and if a state of war usually prevailed between neighboring tribes, as was the case in primitive times, each tribe could get wives only by theft or force; and the reality of capture would, when friendly relations came to be established, degenerate into the form of capture. Now, it is a fact that exogamous tribes exist and have existed. And of the prevalence of capturing wives *de facto* savage and barbarous tribes still furnish abundant illustration. It is also found that the rule against marriage between members of the same tribe coexists with the practice of capturing wives *de facto* and with the form of capture in marriage ceremonies.

If, then, the capture of women for wives and, consequently, the form of capture in marriage ceremonies are to be referred to exogamy, what, we must next ask, is the origin of exogamy? A survey of the facts of primitive life forbids the supposition that it originated in any innate or primary feeling against marriage with kinsfolk. It may, however, be connected with the practice of female infanticide; and it was this, says Mc-

Lennan, "which, rendering women scarce, led at once to polyandry within the tribe and the capture of women from without" ("Ancient History," p. 111). In the struggle for life the instinct of self-preservation triumphed over the love of offspring; and while male children were reared to grow up as braves and hunters, female children, in youth as in maturity a mere burden to the community, were destroyed. And this disturbance of the balance of the sexes involved wife-stealing and polyandry.

Another consequence, affecting ideas of kinship, must be noticed. In the earliest times, according to McLennan, the unions of the sexes were "loose, transitory, and in some degree promiscuous" (p. 131). There may then have been no perception of relationship, for relationship is rooted in a physical fact—the fact of consanguinity; and this, like other objects of observation and reflection, was probably long overlooked. But when it was first perceived, the idea of blood-relationship was embodied in a system of kinship through females only—as was natural when paternity was absolutely uncertain. Now, however, when the original polyandrous and polygynous promiscuity was so far qualified, in consequence of the killing of female children, as that several

men were assigned to one woman and she to them, exclusively, and when to this rudest form of polyandry succeeded that (practised by the Tibetans) in which the husbands are all brothers, it became for the first time possible to determine, if not the father, at least the blood of the father; and as a consequence there began to emerge a system of kinship and inheritance through males, which received its full development when marriage became monogamous and paternity, therefore, indisputable. How this new system of reckoning relationship adapted itself, in the case of exogamous tribes, to the practice of marrying within the tribe, which was permissible under the system of female kinship and had practically made the tribe endogamous, it does not concern us here to explain. We are interested in McLennan's speculations only in so far as they concern the forms of family relations and the morality of them.

Now, for that purpose, nothing is of more consequence than the facts; and McLennan has put it beyond doubt that the phenomena of infanticide, wife-stealing, exogamy, polyandry, kinship through females as well as through males, and tribal intermarriage or endogamy, are all to be found within the area of savagery and barbarism.

A new theory may of course be formed of the order of their connection, or sequence; but it is the indisputable merit of McLennan to have shown the existence and prevalence of the phenomena themselves. One could almost wish that so keen an observer had contented himself with collecting and grouping facts of savage life, an increase of which would scarcely have failed to sober his speculations. For nothing is more striking in his work than the disproportion between the vastness of his hypothesis and the comparative scantiness of the facts adduced to support it. It does not appear unreasonable to suppose that among savages who generally mar ried within their own tribe wives should, when opportunity offered, have been stolen from other tribes; and even descent through females may always, as it does to-day, coexist with descent through males. In any case, we shall require a much larger collection of evidence than has yet appeared to convince us that every branch of the human family has gone through precisely the same course of development. Yet this supposition seems to underlie current investigation into the history of family relations. The *à priori* fallacy would seem to have arisen from confounding facts with the mind's method of apprehend-

ing them. Knowledge, indeed, proceeds from the vague to the definite, but, as Lotze used to say, existence is under no obligation to conform itself to our method of cognizing it; and I see no warrant for the current assumption, that the relations between the sexes began everywhere with indefinite promiscuity, and were gradually determined, in the manner of an abstract notion in logic, into more regulated forms, which at last culminated in monogamy. The inexhaustible life and variety of historical movements must not be sacrificed to the dead, monotonous mechanism of the logician's art, whether it be attempted by Hegel or by those who criticise him. And the elimination of circumstance and accident, which experience shows us are so potent in the formation and development of contemporary institutions and habits, is all the more unjustifiable in the early history of mankind, when human beings were more than now the prey of contingency, and yet possessed fewer ideas for extricating themselves from its clutches. Our antecedent expectation, therefore, would be that the social institutions of savages would everywhere be conditioned by their environment; and that while in one section of the vast area of savagery, where women happened to be scarce, polyandry might

be practised, in another, under more normal conditions, polygyny, or even monogamy, would be the general rule. And it is surely a subject of amazement in McLennan's theory that polygyny does not appear as one of the earliest stages in the evolution of the family. When the ancestors of man had most of the animal in them, they could scarcely have gone by an arrangement which power and sexual jealousy make natural for the lower animals. And of the primitiveness of polygyny neither biology nor history leaves us in doubt. But the coexistence of other forms, under different conditions, need not be disputed. Indeed, even in McLennan's argument there is a tacit confession that endogamy, which with polygyny and the family he would make the outcome of the long development, must have been as archaic as exogamy; for he observes that the separate endogamous tribes are not only as numerous, but "in some respects as rude, as the separate exogamous tribes" (p. 116).

McLennan imagines primitive men to have wandered about in hordes without any conception of family relations. Their sexual condition was one of unqualified promiscuity, in the restriction of which, through polyandry, he conceives all advance to have been made. But although in

this assumption of "communal marriage," or aboriginal hetairism, McLennan is followed by Lubbock, Bachofen, and Morgan, the theory receives no confirmation either from the physiology and psychology of man and other animals or from the known customs of savage and barbarous peoples. "We may indeed conclude from what we know of the jealousy of all male quadrupeds," says Darwin, "that promiscuous intercourse in a state of nature is extremely improbable. . . . Therefore, looking far enough back in the stream of time, and judging from the social habits of man as he now exists, the most probable view is that he aboriginally lived in small communities, each with a single wife, or if powerful with several, whom he jealously guarded against all other men" ("Descent of Man," pp. 590, 591). In archaic times there prevailed

> "—— the simple plan,
> That they should take who have the power,
> And they should keep who can."

In the struggle for life and survival of the fittest we expect the selection and evolution of power and sexual jealousy. It seems incredible that, as a general rule, equal and indiscriminate copartnership in the possession of women should have been the outcome of that war of all against

all. And, indeed, actual evidence of the formation of rudimentary societies, by an observer so competent as Sir A. Lyall, shows that if the perplexed jungle of primitive society springs out of many roots, "the hero is the tap-root from which, in a great degree, all the rest were nourished and grown" ("Asiatic Studies," p. 168). Nor do we find in the known habits and customs of savages any evidence of the very unheroic practice of communal marriage. McLennan does not attempt to establish the point, which is simply postulated as a background for the unfolding of his theory. In fact, however lax the marital arrangements among savages, some kind of permanent union, some appropriation of individual women by individual men, is always to be found or inferred. If the Esquimaux lend their wives, they must have wives of their own whom others cannot appropriate without their consent. Even the Aleutian Islanders and Fuegians have fixed marital relations, and it would be difficult to find more degraded tribes than these.

Promiscuity in McLennan's system is followed by infanticide of females, which would naturally evolve polyandry and, if carried far enough, wife-stealing too. But in considering this practice as universally prevalent, McLennan manifestly goes

beyond the limits of possibility. If all clans killed their infant daughters, where could women be found even to steal? Under the stress of circumstances making it impossible to procure sufficient subsistence, it is conceivable that savages should destroy their young; but, knowing the savage's incapacity for providing against the future, I find it hard to believe that, in the cruel grasp of the present, he should discriminate between boys and girls when both alike are equally burdensome. And Sir John Lubbock assures us, that while infanticide has widely prevailed among savages, "boys were killed as frequently as girls. Eyre expressly states that this was the case in Australia" ("Origin of Civilization," p. 81). It should further be noted that if, as McLennan supposes, female infanticide coexists with exogamy and wife-stealing, it would be difficult to explain, not why so many female children are killed, but why any are spared, seeing that none can be married within the tribe.

No doubt, again, infanticide of females would be sufficient to account for polyandry; but neither infanticide (whether of girls or boys or of both) nor polyandry can be shown to be practices of universal prevalence. It is possible, though not, I think, verifiable, that in special circumstances the

killing of female infants may have led to polyandry; but more natural explanations may easily be found. Sir Henry Maine tells us of the origin of a modern case of polyandry: "It is known to have arisen in the native Indian army" ("Early Law and Custom," p. 124). And if we suppose in primitive times, similarly, a number of men torn away from their original seats (in which the balance between the sexes may have been even) with only a few women among them, we have, judging from the analogy of the Indian army, all the conditions required for the emergence of polyandry. Now, as Sir Henry Maine has pointed out (*Op. cit.*, p. 212), our earliest glimpses of a great part of the human race reveal it in a state of movement. Fighting, or wandering for food, it is not unreasonable to suppose that in many cases they settled in new seats with only a comparatively small number of women; and there is evidence that some of the islands of the Pacific were settled by boat-loads of men with only a few of the other sex. Polyandry could thus be explained without denying to primitive man those instincts of power and jealousy which biologists and psychologists alike attribute to him. But, of course, it could make no pretence to being an invariable stage for the whole human race in the

course of its development. On the contrary, it would be seen to have originated, under exceptional circumstances, with the strays and waifs of humanity. As the only steady cause of inequality between the sexes was war, which would tend to leave the women in excess, it would seem, in the absence of other evidence, that polygyny was in all probability more primitive and more universal than polyandry.

It is also a fair assumption that female infanticide should lead to wife-stealing, which might ultimately crystallize into the system of exogamy. Certainly wife-stealing, like infanticide and polyandry, actually exists; and, as McLennan was the first to point out, the form of capture attests its decay among tribes who once practised it. We do not, therefore, dispute the facts; but we do question the significance with which McLennan endows them. There is no evidence that wife-stealing and exogamy were universal stages in the evolution of humanity. In fact, the connection between infanticide, polyandry, and the capture of women is arbitrarily assumed by McLennan. Infanticide may coexist with polygyny or monogamy. Polyandry and wife-stealing we should not expect to find conjoined; for if tribes are brave enough to steal wives, they would not cease

stealing till they had one or more for each man. And Mr. Herbert Spencer is authority for the assertion that "where wife-stealing is now practised, it is commonly associated with polygyny; while, on the other hand, polyandry is a trait of certain rude peoples who are habitually peaceful" ("Sociology," i., pp. 646, 647). Thus wife-stealing tribes would soon cease to be polyandrous; and McLennan is left without a basis for his imaginary evolution of Nair and Tibetan polyandry, with their ultimate outcome of monogamy and descent and inheritance through males. Polyandry is a permanent and universal stage in McLennan's scheme of family development. Yet we have only to remember that women captured by the stronger tribe were lost to the weaker to see that with the growth of strong tribes, who must have had women in excess, there was a concomitant decay of weaker tribes, until none but the strong, polygynist tribes remained. The polyandrous condition was never general, and where it did exist, was often so unstable as to pass almost at once over into its opposite.

Similarly, the opposition between exogamy and endogamy resolves itself into a vanishing difference. It was perhaps inevitable, in the first flush of a new discovery, that McLennan should have

overlooked facts equally important. It was of course known, both from Roman and Hindoo law, that persons within a certain degree of relationship (theoretically, in Hindoo law, persons descended from the same male ancestor), could not intermarry. But McLennan was the first to show the prevalence of a similar restriction among savage and barbarous tribes. Unfortunately, he made no study of their social or governmental regulations; and the fact that the members of a certain group could not intermarry, taken along with the fact of wife-stealing, seemed to him equivalent to universal prohibition among kindred. But the study of the government of savages is tending to the same result as we have just noted among the Aryans. Many of the tribes quoted by McLennan as exogamous are found to be made up of divisions, or *gentes* (as Morgan calls them); and while a member of a division is forbidden marriage within it, he may marry in any of the other divisions of his tribe. Thus among the Iroquois, a Wolf may not marry in the Wolf clan, but he may marry a woman of any of the remaining seven clans among the five tribes of the Iroquois; and Sir Henry Maine notices the same external circle among the Chinese. It is coming, therefore, to be established, that as

among the Romans a man might not marry within the prohibited degrees, yet must marry a Roman, so among savages there is an endogamous as well as an exogamous circle; and while any particular division is exogamous with regard to itself, it is endogamous with regard to the remaining divisions of the tribe.

A word with regard to kinship through females must end this survey of McLennan's account of the family. That it exists among certain savages is undeniable. That it ever existed as a rule for the whole human race is an assumption that has no probability in its favor, and an assumption we have no motive to make when polyandry is found not to be an invariable stage in the development of marital relations.

The facts McLennan has brought together are eminently valuable. His speculative interpretation of them, everywhere ingenious and original, is sometimes fanciful and commonly open to the charge of unwarranted generalization.

A somewhat similar verdict must be pronounced upon Morgan.

Morgan undertook to determine the sequence of family institutions from systems of reckoning relationship. Comparing the systems of many tribes, he held that the entire development of the

human family is represented by three great systems of consanguinity, which he designated the Malayan, the Turanian, and the Aryan. These systems rest, not upon nature, but upon marriage; so that, given the system, we may infer the form of marriage. It is assumed that each relationship, as recognized in language, is what at one time actually existed under a certain form of marriage. The Aryan system is *descriptive*—that is, it makes the relationship of each person specific (as, *e.g.*, brother's son, father's brother's son). The Malayan and Turanian systems are *classificatory*—that is, they arrange in categories according to generation ("brothers," *e.g.*, including not only my own, but the sons of my father's brothers, and "sons" including not only my own, but my brothers' also).

A system of consanguinity is naturally slower to change than the form of the family whose relationships it expresses. And thus it is that the Malayan system of consanguinity and affinity, outliving for unremembered centuries the marriage customs in which it originated, remains to attest the fact that such a family existed when the system was formed. This system, though its *raison d'être* is gone, survives in daily use among the Hawaiians and other Polynesian tribes. Un-

der it, all consanguineii, near and remote, are classified into five categories. Thus, myself, my brothers and sisters, and those whom *we* call first, second, third, and more remote cousins, are all without distinction brothers and sisters. My father and mother, together with their brothers and sisters, and what *we* call their first, second, and more remote cousins, are all without distinction my parents. Similarly of grandparents. And, below me, my sons and daughters, with their several cousins, as before, are all without distinction my children. And similarly of grandchildren. Moreover, all the individuals of the same grade are brothers and sisters to each other.

Now, if this system, as we must assume, expressed relationships which once actually existed, we may deduce from it the form of the family in which it originated. This can be no other than what Morgan calls the *consanguine* family—that arising from the intermarriage of brothers and sisters, own and collateral, in a group. Since the relationships recognized in the system are identical with those emerging from the consanguine family, the latter must have been the basis of the system of consanguinity. An illustration or two will make this clear. The system

makes the children of my several brothers and sisters my sons and daughters: the reason lies in the consanguine family, in which all my sisters and my brothers' wives are my wives. Were I a female, the foregoing relationships would be the same; for, in the consanguine family, my several brothers being my husbands, their children by other wives would be my step-children, which relationship being unrecognized, they naturally fall into the category of my sons and daughters. Every relationship of the Malayan system is explicable on the assumption of the consanguine family, and no other; consequently the system is evidence conclusive of such a family.

Under the Turanian system of relationship, while my brothers' children continue to be mine as well as his, and mine his as well as mine, there is a departure from the Malayan system in making my sister's children my nephews and nieces, and my children her nephews and nieces. From this initial difference between the two systems follow all other differences. Without noticing them, let us ask at once what kind of family does the Turanian system of consanguinity presuppose as its basis? And the answer is clear: A family differing from the consanguine only in its prohibition of marriage between own brothers and

sisters. That is to say, it is a family founded upon the intermarriage of several sisters, own and collateral, with each other's husbands in a group, the joint husbands not being necessarily kinsmen of each other; and, also, on the intermarriage of several brothers, own and collateral, with each other's wives in a group, these wives not being necessarily of kin to each other. It is designated by Morgan the *punaluan* family, from a Hawaiian analogue. And he supposes it to have developed from the consanguine family as soon as the evils of close inbreeding came to be generally recognized. And from it, as he holds, sprang the organized "Gens"—"the exogamous totem-kin" of McLennan—whose first germ consisted in the systematic exclusion of brothers and sisters from the marriage relation.

Now, as there is a complete parallelism (which we have not here space to illustrate) between the relationships recognized by the Turanian system and those growing out of the punaluan marriage, it is inferred that the latter is the ground of the former. The Turanian system of consanguinity and affinity was universal among the North American aborigines, and has been found in South America and Africa; it still prevails in India and Australia. Like the Malayan, it survived after the

form of family in which it originated had passed away. The form of family advances of necessity faster than systems of consanguinity, which follow to record the family relationships. And it takes something like a revolution to bring the system of consanguinity into line with the changing structure of the family. It was through the organization into "Gentes" that the Malayan system was changed into the Turanian. But the Turanian did not undergo further development; and being false to the evolving forms of the family, it was finally superseded by the Aryan system, which is founded on facts of consanguinity in the monogamous family. But between the punaluan and the monogamous family Morgan intercalates two other forms. The higher is the *patriarchal* family, which is founded on the union of one man with several wives, the entire household being organized under paternal power; and the lower is the *syndyasmian* or *pairing* family, which was founded upon marriage between single pairs, but without an exclusive cohabitation, and continuing only during the pleasure of the parties. The pairing family is a development of the punaluan, under the favoring influence of improvement in the arts of life, in house-building, in the means of subsistence, etc. And the patriarchal

family springs out of the syndyasmian when pastoral life begins, with the holding of lands and the care of flocks and herds. Lastly appears the *monogamous* family, which must be associated with the rise of individual property and the desire of fathers to establish lineal succession to estates. As the form of the family has changed in the past, so must it in the future keep pace with the advance of society. But should the monogamous family fail to answer the coming requirements of society, it is impossible to predict the nature of its successor.

Thus the theory of Morgan, like that of McLennan, reaches out into a past and a future as distant as each is hypothetical. Hence some of the objections urged against McLennan's theory are equally applicable to Morgan's. There is, for instance, not the slightest ground, apart from the exigencies of a theory, for the assumption of an aboriginal promiscuity in sexual relations, which, indeed, both archæology and biology tend to disprove. And it may be reiterated, once more, that it is a gratuitous concession to our methodology when the facts of the world are supposed to arrange themselves according to our mode of apprehending them. We have no evidence whatever that all branches of the human family passed

through precisely the same stages of development, either in general or, still less, in the details of their social institutions. This is the πρώτον ψεῦδος of the theory before us. And not only does this baseless assumption determine the initial stage of the theory, it colors it from beginning to end.

Nevertheless, it is not possible to deny the value of the facts collected by Morgan. It was, indeed, a stupendous achievement to tabulate and explain the systems of consanguinity and affinity of one hundred and thirty-nine tribes and nations, representing, numerically, four-fifths of the entire human family. And, in the comparative study of institutions, the facts, if rightly understood, are of vital significance. They become misleading only when, apart from history, they are supposed to tell us anything about the order of development of human institutions. Even if it were granted that Morgan's "conjectural solution" of the facts is correct, and that the several systems of consanguinity really imply the correlative existence of several forms of the family, it would have to be conceded that there is no evidence of the whole human family having passed successively through all these stages, or, indeed, of any very necessary connection between the stages

themselves. "They stand to each other in a logical sequence" (p. 413), says Morgan; and, indeed, that is just why we suspect them. They seem the creatures of successive logical determination, rather than the footprints of infant humanity. Some such acknowledgment is implied in Morgan's confession that promiscuous intercourse has not been practised "within the time of recorded human observation," and that it can only be "deduced theoretically as a necessary condition antecedent to the consanguine family" (p. 502). And, again, the Malayan system, which expresses the relationships existing under the consanguine family, is pronounced the oldest form *because* it is the simplest (p. 403). Thus the consanguine family is really the starting-point of the whole system; from it promiscuity is inferred to have preceded, and without it the punaluan family could not emerge in the sequel. I proceed, therefore, to examine this crucial point—the evidence for the existence of the consanguine family, on which the whole theory depends.

As a family organization, Morgan himself tells us it nowhere existed in historic times. The marriage of sisters and brothers, own and collateral, in a group, is, as we saw, solely an inference from the Malayan system of consanguinity

and affinity. That system is classificatory; it groups all individuals of the same generation into a class and calls them children, or parents, or grandchildren, or grandparents, without further distinction than that of sex. Now, it must be admitted that Morgan's hypothesis satisfies the first condition of any hypothesis: it is sufficient to account for the facts. But when we ask if it is in itself a probable assumption, or if taking promiscuity as established this form of family was likely to succeed it, it is impossible to answer in the affirmative. We must therefore seek a more probable explanation of the facts represented by the Malayan system than the consanguine family affords. A natural supposition is that the Malayan system of relationship arose solely from a poverty of language among savages. Some qualification will, however, be necessary in this hypothesis, since Morgan tells us that many of these languages are rich in discriminating terms of address. There is one word for brother or sister when a younger is addressing an elder, and another in the converse case. It must therefore be admitted that their concrete terms, of daily and hourly use, are abundant and eminently significant. But may we not assume that abstract terms of relationship are scanty? Is not

that what our science of comparative language leads us to expect? They are rich in concrete, poor in abstract, terminology. But what then follows? Why, that this so-called Malayan system of consanguinity and affinity is not based on blood-ties (these not being, as later investigations show, facts of primary perception), and has nothing at all to do with any particular form of the family, but is simply a rough way of classifying all the generations which might ever be known to any individual. Under this system "brother" is not one of the same blood, "father" is not one who begets, "mother" is not one who bears; all alike are descriptions of classes. Is there, then, no method of describing relationships nearer? The objection implied in the question touches our hypothesis not more than the other. But, fortunately, Morgan himself supplies an answer. "A descriptive system precisely like the Aryan [*i.e.*, the one we use] always existed both with the Turanian and the Malayan" (p. 484). The latter would therefore seem to be merely a classification of generations, to which, naturally enough among communal societies, the same names were applied.

Besides, Morgan's hypothesis does not give an unquestionable explanation of all the facts, though

the contrary has so far been assumed. There is one part of the so-called Malayan system in regard to which his account does not satisfy me. If there are several brothers, *A*, *B*, *C*, and several sisters, *a*, *b*, *c*, then, no doubt, in the consanguine family, where *A*, *B*, *C*, and *a*, *b*, *c*, are intermarried, *a*'s children may be called children of *A* and *B* and *C*, and similarly of *b*'s children and *c*'s children; but why should *a*'s children be called *b*'s and *c*'s, and *b*'s children *a*'s and *c*'s, and *c*'s children *a*'s and *b*'s, as they are designated in the Malayan system? Because, says Morgan, *A*, *B*, and *C* being husbands of *a*, their children by *b* and *c* would be *a*'s step-children, which relationship being unrecognized, they naturally fall into the category of *a*'s sons and daughters (p. 410). But this is surely to attribute to primitive savages our own modes of tracing relationship, founded upon monogamous marriage. And when Morgan observes, by way of proof, that "among ourselves a step-mother is called mother, and a step-son a son," he overlooks the fact that there is with us no other mother, and the father is always the same. Nor does the case have any analogy with that of calling *A* and *B* and *C* fathers. They are so called because, although only one of them can be the father of the child, any one of them may have been,

and the paternity is supposed to be unknown. But there can be no doubt that *a* is the mother of her child, and that *b* is the mother of hers. Paternity is doubtful, because it is inferred; maternity, being a fact of perception, does not admit of doubt. Why, then, does *a*'s child call *b* mother, and *b*'s child call *a* mother? This cannot be explained by the consanguine family. But it is a species of relationship recognized in the Malayan system; therefore, that system is not based on the consanguine family. If, on the other hand, that system be supposed a mere classification of the generations known to most individuals, then the term "mother" must be applied by a child to the women *a*, *b*, and *c*, because they all belong to the same generation.

With the disproof of the existence of the consanguine family, Morgan's theory of the development of marital relations falls to the ground. The punaluan family, by which he accounts for the Turanian system of relationship, is evolved from the consanguine by excluding own brothers and sisters from the marriage union. But if there never was a consanguine, there could be no punaluan family developed from it. And, accordingly, some other account must be given of the Turanian system of consanguinity. If we admitted the

punaluan family as an explanation, it would be open to most of the objections already urged against the consanguine. Excluding it, then, how are the phenomena to be explained? It would be aside from our present purpose to enter fully into this matter. But as the main difference between the Malayan and Turanian systems lies in the fact that the one designates my sister's children as my children, and the other as my nephews and nieces, an explanation of the divergency may be found in the supposition that while the old classificatory system, in general, remained in vogue, it became modified under the organization into classes, through the separation established between brothers and sisters by the system of reckoning descent and inheritance through females only. My sister's children belong to her clan, mine to the clan of my wife. A new designation, therefore, was needful, when a rule broke up the old communal system in which brothers' and sisters' children all belong to the same group and, being of the same generation, were designated by the same name.

While the consanguine and punaluan families supply an imaginary *raison d'être* for the Malayan and Turanian systems of relationship, the syndyasmian and patriarchal families have not even

such shadowy support. They are assumed, not because any particular system of kinship implied them, but because they mediated the logical progression from the punaluan to the monogamous family. We know, of course, from history and observation that such unions have been practised; but there is no reason, save the symmetry of logical development assumed in Morgan's theory, for making them universal stages in the progress of mankind. As they do not profess, like the other three forms of the family, to be established from systems of consanguinity, and are only species of logical determination of the punaluan, we need not consider them further.

Nor is much comment required on the Aryan system of consanguinity and affinity. It differs from the preceding systems in being descriptive and not classificatory. It is founded on the monogamous family, whose existence, known to us for three thousand years, does not need to be inferred from any system of consanguinity. This Aryan system is not, according to Morgan, a development of the Turanian as the Turanian was of the Malayan. It is an entirely different system, having no sign of connection with the others. Yet Morgan supposes that all peoples, now having the Aryan system, formerly had the

Turanian. This presumption is, however, largely founded on the assumption that the monogamous family is developed from the punaluan. But we have shown that there is no satisfactory evidence of a punaluan family. Morgan adds, it is true, that the "impoverished condition of the original nomenclature of the Aryan system," limited as it was to "father and mother, brother and sister, and son and daughter, and a common term applied indiscriminately to nephew, grandson, and cousin" (p. 481), could not possibly have been the sole nomenclature of relationships used by a people in so advanced a condition as the Aryans; and he therefore assumes that at that time the Turanian system was just dying out among them. But this is little better than begging the question. What was there in the simple relations of primitive Aryan society that demanded a complex system of consanguinity? There is no ground for supposing, as there is absolutely no evidence, that the beginnings of the Aryan system were synchronous with the disintegration of the Turanian.

This protracted examination of the theories which have been furnished by Morgan and McLennan of the evolution of conjugal relations cannot fail, I think, to induce a sceptical state of mind in relation to all such speculations. The

data are so scanty, the *lacunæ* so numerous, that almost any hypothesis, it would seem, might establish some claim to verification. Our information is made up of a collection of scattered observations on the marriage customs of a small part of the human family. Moved by the scientific impulse, we attempt to discover their origin and causes. But if even in physical investigagations, where complicating conditions may be eliminated, we are always liable to error from the possibility of a plurality of causes, how much more so in dealing with social phenomena which are inextricably entangled and intertwined. The ignoring of this limitation is the weak point in the argument of Professor Robertson Smith, whose "Kinship and Marriage in Early Arabia" is otherwise (if I may say so) a model of philologico-historical research. When Professor Smith lays down (p. 132) that "the very object of hypothesis is to inquire whether a real cause (*vera causa*) has not had a wider operation than there is any direct evidence for," his position may not be disputed; but when he adds "the necessary and sufficient proof that this is so is the wide prevalence of effects which the cause is adequate to produce," he overlooks altogether the possibility, and, indeed, in human affairs the proba-

bility, of the same phenomenon having different causes. The "necessary and sufficient proof" must show, not only (1) the prevalence of the effects, and (2) the adequacy of a certain antecedent to produce them, but also (3) the impossibility of their being produced by any other antecedent or antecedents. This last all-essential link in the demonstration is what is wanting in current theories of the development of the family. And with the omission of it goes a corresponding neglect of the environment and circumstances, physical, social, and especially historical, in which any particular form of marriage appears. Isolating the various conjugal relations from their historic settings, in which alone an explanation of each is to be found, the theorist generally puts them in an arbitrary row, as one might string beads, and then asseverates that this linear arrangement of contemporaneous phenomena in space corresponds to the successive order of their evolution in time! Meanwhile, no one knows that there has been such a universal development; or that there ever was a time when all the forms of the family did not coexist as they do to-day.

It would seem, therefore, that even the most conservative school of moralists need sacrifice nothing to the current theory of the evolution of

the family. There can be no settlement of any ethical question by an arbitrary deduction of all forms of conjugal relations from a single imaginary source along a single imaginary path. No light is thrown upon the study of morals by an appearance of deriving historic from prehistoric institutions. Yet, in the study of the family, this unfruitful method has for the most part been followed; and from McLennan's "Primitive Marriage" to Lippert's recent valuable "Geschichte der Familie" simple facts are obscured by overshadowing speculative theories. What forms of marriage now exist we know or may know; what existed in historic times we have some report of; but beyond this horizon all is darkness, and remains darkness, though Morgan and Lippert would fain conjure up the unrecorded past, and Letourneau in prophetic vision predict the course of the yet unborn future.

It is not, therefore, with *theories* of the evolution of the family that moralists have to reckon. Like other phantasies and bold guesses, these may be passed by. But it is different with facts—actual observations made within the historical horizon. These have a vital interest for the moralist. And it is the merit of the evolutionist to have recognized their significance,

though in general he managed to eviscerate it by adapting them to some extraneous speculation, cosmic or sociological.

Many of the more striking facts known in regard to family relations have already been mentioned in connection with the theories into which they have been woven. If these theories have been rejected, it was not from any desire to minimize the revolting character of the marital connections between men and women in many savage or barbarous tribes. There is no evidence that every people once lived in absolute promiscuity or in consanguine families; but it is a fact that among the Todas of the Neilgherry Hills the husband's brothers become husbands of the wife, and the wife's sisters become common wives of all her husbands.

The custom of reckoning kinship through females may not always have preceded the custom of reckoning kinship through males, but McLennan, Bachofen, Robertson Smith, and Lippert have shown that it was at least a widely extended practice. It is found among the natives of America, Australia, and Africa. It prevailed also in the ancient world. The Egyptians long held the mother's name indispensable; the Lycians, as Herodotus narrates fully, traced gene-

alogies through mothers; the Germans, according to Tacitus, considered the relationship between children and their mother's brother closer than that between children and their own father. In Hebrew, *ēm*, the word for "mother," also means "stock, race, community," and similarly with the Arabic *omm*, *omma;* while in either language, again, the bonds of relationship are designated by a word connoting the "womb." And Professor Smith makes the highly original suggestion that Eve, "the mother of all living" (Gen. iii. 20), is "the universal eponyma, to whom all kinship groups must be traced back. Eve is the personification of the bond of kinship (conceived as exclusively mother-kinship), just as Adam is simply 'man,' *i.e.*, the personification of mankind" (*Op. cit.*, p. 177). Lastly, in the "Eumenides" of Æschylus, Bachofen saw (like Gervinus with regard to "Hamlet") a tragic conflict between two world-epochs: the hoary age of mother-kinship, represented by the Erinnyes, and the dawning age of father-kinship as announced by Apollo and certified by Athene in the judicial acquittal of the matricide Orestes.

Along with mother-kinship goes the custom of a husband settling in the family of his wife. Livingston found an isolated example of it not

far from Zululand. The main features were that the man, in order to marry, had to move to the *craal* of his wife, promise constantly to provide the mother-in-law with wood, never undertake service elsewhere without her consent, and, in case of separation, leave all the children as property of the wife. Among ancient Arab tribes, the husband also went to the tent of the wife; and when she wished to dismiss him (for he stayed at her pleasure) she turned the tent round so that the door faced opposite its former direction, "and when the man saw this he knew that he was dismissed and did not enter." And in Syriac and Hebrew, as well as Arabic, the husband is said to "go in" to the bride. It will be remembered, too, that the tent to which Isaac took Rebekah was "his mother Sarah's tent" (Gen. xxiv. 67), and that Sisera fled "to the tent of Jael the wife of Heber the Kenite" (Judges iv. 17), and that Samson's wife remained with her people, and received there the visits of her husband (Judges xv. 1). These all embody, in a modified form, what seems to have been the universal rule of primitive marriage among the Hebrews: "Therefore shall a man leave his father and his mother, and shall cleave unto his wife" (Gen. ii. 24).

But the custom of reckoning kinship through women, and that of men joining the family of their wives, do not imply promiscuous relations between the sexes, of which, as we have already seen, there is absolutely no evidence. Nevertheless, there are found in the whole area of savagery, side by side with marriage relations and domestic virtues like our own, practices and sentiments wholly unlike, and even opposed to them. Nothing can be more striking than the variety of arrangements in regard to the sexes. Very frequently wives and maidens are distinguished, and while conjugal fidelity is required of the former, no importance is attached to maidenly chastity. Even in marriage some Arab women are bound for only four days of the week, being free to go with anyone they like during the off days. And once a year, on the night of a certain festival, a similar liberty was enjoyed by the wives of the Nicaraguan aborigines. Again, wives, as the property of the husband, might occasionally be put at the service of others; and Cato's conduct in lending Martia to his friend Hortensius is nothing more than the laws of hospitality require among the Esquimaux, Greenlanders, and other tribes. Still, the rule is that the strictest fidelity is demanded of mar-

ried women. A Peruvian maiden might live a loose life; but if as wife she were guilty of infidelity, the punishment was death. A similar fate awaited the unchaste wife in Mexico, where divorce was reserved for such slight faults as bad character, dirty habits, and the like. Farther north, among the Comanches, the wife was punished by cutting off her nose. Still, it is not pretended that infidelity was always regarded as a heinous offence. And, on the other hand, a wife might be divorced for much less weighty reasons. This brittleness of the marriage bond is a very striking characteristic of savage family life. Among the Iroquois and the Tahitians a marriage might be dissolved when either of the parties wished it; but the right of effecting a separation generally inhered in the husband, who exercised it freely and often most cruelly. In East Africa, as in New Zealand, it consisted simply in turning the wife out of doors, to which the American Chippewayans added a "good drubbing." Property and children remained with the husband, thoughto this rule there may be found exceptions in the customs of the Dakotahs, Samoans, Karens, and others.

While restrictions are generally put upon married women, whose conjugal fidelity is the natural

outgrowth of their position as property or chattels of the husband, the greatest laxity is often allowed to young unmarried girls, or even forced upon them. In West Africa there are public halls where every maiden is exposed prior to marriage, often for a period of several months. And the instances mentioned by Herodotus and Strabo show that among the Lydians, Assyrians, and Babylonians a woman was not free to marry till she had offered herself once in the temple of Venus. The Jews seem to have been acquainted with this custom, but rejected it (Deut. xxiii. 18). A somewhat similar usage obtained in the Balearic Islands, where the bride became the exclusive wife of her husband only on the day after the wedding. And among the Santals, a hill tribe of India, marriage is now brought about by turning all the young people promiscuously together, and requiring them, after six days' license, to pair off as man and wife. Nor must it be supposed that such revolting practices are limited to marriage ceremonies. It would be easy to enumerate examples of female licentiousness continuing throughout the entire period of unmarried life. But I think it will be enough to mention what was narrated to me last summer by a missionary who had spent several years at

Aneityum, and is now about to settle on Santo, both islands in the New Hebrides. Maidenly chastity was there, according to this unimpeachable authority, an unknown conception, unlimited hetairism being the normal condition of every unmarried woman from earliest girlhood. And licentiousness had so colored their modes of thought and speech that it seemed impossible to initiate them into Christian purity without, at the same time, teaching them a new and cleaner language.

It is facts like these that moralists, especially of the intuitive school, are called upon to face. Nor are these the only perplexing facts bearing upon the morality of the family. It must be recognized that among savages marrying is, for the most part, but the acquisition by the man of a new object of gratification, a chattel which may at once minister to his appetite and conduce to his profit. Wives are, accordingly, stolen or bought like any other property, though purchase, which is at least as old as the Iliad and the Pentateuch, is far more prevalent at the present day than capture. It is still the theory of Moslem law. Among certain savage tribes a man with several daughters is esteemed rich; and when among such people infanticide is practised, girls

are spared oftener than boys, as Dobritzhoffer relates of the Abiponians. And this conception of women as property naturally leads, were there not other motors, to polygyny. Thus Clavigero relates that among the Mexicans the possession of a large number of wives was regarded as a sign and proof of superiority. And there is similar testimony regarding many savage tribes, in which a direct relation may be observed between the means and standing of the husband and the number of his wives. In Ashantee the king is allowed by law three thousand three hundred and thirty-three. The king of Yoruba boasted that his wives, of whom some composed his body-guard, would, linked hand in hand, reach clean across his kingdom. And polygyny, though necessarily on a smaller scale, is practised in all parts of the earth—from the frigid to the torrid zone, over connected continents, and on solitary ocean isles. And as it prevails over vast areas of space, so it spans ages of time, appearing with the first dawn of history and flourishing to this day among a large part of the human family.

To these deviations from our own marriage practices must be added examples of incest. These occur, naturally, in endogamous tribes. The Veddahs of Ceylon had a custom, not yet ex-

tinct, sanctioning the marriage of a man with his younger sister, though they held it revolting to marry an elder sister or aunt. The same practice is found in the Sandwich Islands, where the king sometimes married his sister, as among the Peruvians the Incas always did. According to Hearne, the Chippewayans frequently espoused their own daughters, giving them over, after some time, to their sons. Other savages have certain bars to marriage, some of them corresponding almost to our table of prohibited degrees. But the field of choice for wiving is exceedingly varied. Where a tribe is at once exogamous and endogamous, and has at the same time no sense of consanguinity, there is no limit whatever; so that a man's wife may be a remote foreigner or his own sister, or if he be polygamous, both may be his wives. If the tribe be purely exogamous, he may marry anyone outside it, except in that restricted exogamy which limits him to his own confederacy. And if the tribe be purely endogamous, his choice is narrowed to its own female members, including or excluding, according as a sense of blood-relationship is developed or not, his own immediate kin and affinity.

There are other peculiar features of family life among the uncivilized, which could not be omit-

ted from a picture making any pretensions to completeness. But for a comparative study of the ethics of the family the details already mentioned will perhaps be sufficient.

This survey, brief as it has been, can scarcely have failed to generate a suspicion of the historical character of those moral ideals which draw their nourishment from the relations established between the sexes. Were these relations everywhere the same, our domestic morality would seem as ultimate and as final as justice or benevolence. But it is despoiled of its absoluteness when the discovery is made that our own form of marriage is but one of several competing types, that the "relations dear of father, son, and brother" have different foundations among different peoples, and that chastity and fidelity are so far from universal virtues that many peoples have no conception of them, and when they have appeared they seem to have grown out of rights in women as property—adultery in Madagascar, *e.g.*, having the same punishment as theft —and are consequently never, or seldom, required of savage men. The rights, duties, virtues, and sentiments associated with our idea of the family cannot, therefore, be considered a part of the content of the moral law universal.

This seems to me a result of considerable importance for moral philosophy. And it is a result that cannot be gainsaid by any school, since it is not a speculation, not even an inference, but an undeniable statement of actual facts.

Moralists have divided into opposing camps on the question of the ultimate or the derivative nature of morality. While one party recognizes in moral laws nothing but means to ends, the other finds in them the expression of uncreated and unchanging relations, whose closest analogue is presented by mathematics. When this time-worn controversy is stripped of the accidental features by which party rage has heightened the contrast, it will be seen that these positions are not mutually exclusive. If a moral law is but a maxim for the attainment of an end, then, unless the theory is suicidal, there must be some ultimate end or ends for the sake of which maxims are enjoined; and this absolute object might very properly be described as eternally desirable, self-evidencing, and standing in the same relation to the conscience (which recognizes its authority) as a mathematical principle to the understanding (which recognizes its truth). In other words, the relativist cannot logically escape the admission that at least some moral principle or principles

are intuitive, self-evident, and underived. And, as a matter of fact, the principle of universal benevolence has been so treated by relativists, at least since the time of Bentham. But the implications of their logic have been hidden from themselves, through emphasis upon irrelevant issues. Holding the happiness of mankind as the sole ultimate good, they delighted to dwell upon the relativity of sundry virtues, and to show their emptiness and worthlessness apart from a tendency to promote the general welfare. And with still more ardor they proclaimed that the supreme good, or happiness of mankind, consisted in pleasure, which alone they declared truly desirable, if, indeed (as they generally denied), anything else could really be the object of human desire. Now, these highly speculative and dubious positions should not obscure to our view the underlying intuitional groundwork. Something at least is recognized as self-evident, primitive, and inviolably obligatory—the welfare of mankind. It is not, therefore, upon the existence of primitive intuitions, but upon their number, that the difference turns between the relative and the absolute moralist. They agree *that* there are primal and underived moral principles; but they cannot agree in determining

what they are. Universal benevolence, according to Mill; benevolence, justice, veracity, and many others, according to Butler. But whether one intuition or many, the defender of either position is essentially an intuitionist.

Still, though not so great a difference as has been supposed, a difference very real yet remains unadjudicated between the two schools. I need scarcely point out, at the close of this volume, the futility of submitting it to the equivocal arbitrament of many-voiced speculation. The results of this procedure are too sadly evident in the medley of personal prejudices, guesses, and vagaries that pass with us for ethical science. As speculation has its source in a personal need, and derives its form from the nature of the personality, so, as Lotze was ever ready to recognize, the satisfaction it gives and the validity it can claim are, primarily, only individual. But science must consist of propositions objectively established—valid for you as well as for me. Moral phenomena have hitherto been the subject of speculation; and the contents of the moral law have been formulated according to individual caprice. Now, what I propose is that we shall pass by this fruitless method and proceed *scientifically* to determine the point here at issue—the nature of the

moral law, the comparative primitiveness of moral principles, the derivative or inderivative character of morality. And after the methodological considerations in the first chapter, it will scarcely be necessary to remark that, in my opinion, the question can be settled only by an appeal to observation and history.

It may be objected that ethics deals with what *ought to be*, not what *has been*. But the objection ignores the fatal consideration that NO SCIENCE CAN DETERMINE WHAT OUGHT TO BE; that we know it, as a mathematical friend of mine is wont to say, in language as aptly expressive as Wordsworth's ode, only by "feeling it in our bones;" and that any speculation on the subject has no authority or validity beyond the speculator himself. Besides, the problem of the science of ethics, or of historical ethics, is not adequately described in the foregoing objection. That problem is, if not what ought to be, at least *what man has thought ought to be.*

Unfortunately, data are not yet at hand for the complete solution of this scientific problem. The science of historical ethics is still too young to have established what moral principles are ultimate and fundamental—that is, what principles man, everywhere and at all times, has considered

binding. But though it is not yet discovered what morality is primordial and universal, it has been settled beyond doubt that the so-called intuitionist school, or certain members of it, have erred in supposing all the virtues to be of that description. History and observation have alike demonstrated the absence of the ideas of chastity and fidelity in the moral furnishing of the minds of many savage and barbarous tribes. By following the same method, similar inductions might be established, until ethical science had completely made out the number and the nature of the primitive and universal moral intuitions.

But though domestic morality is certainly a derivative and occasional growth, I do not hold that other important virtues have had a like historical origin. On a field in which there has been so little investigation, opinion, it must be borne in mind, cannot pretend to finality, or even to much solidity. But some gropings amid the general darkness incline me, at least tentatively, to the belief that, apart from the domestic virtues, there is no such great difference between the morals of Christians and the morals of savages. Observers are naturally struck with what is new and unlike their own modes of thought and conduct; and so it often happens that the

most superficial dissimilarities produce a profound impression, while the great body of common morals escapes notice. This want of perspective is manifest alike in the oral and written descriptions of travellers, as everyone will have felt who has tried to digest their information and arrange it into a distinct system. When I first inquired of the missionary, already referred to, into the moral condition of the natives of the New Hebrides, he described them as a gross, debased people with scarcely any sense of morality. This is the popular view of the North American Indians, though it is certainly erroneous; and the reader of Parkman's brilliant volumes may suspect that one great social evil—the condition of the poor—they disposed of with more compassionate equity and with more success than their later civilized maligners. I found, too, on going into details with my missionary friend, that the New Hebridean natives, among whom he had spent many years, were, *in their dealings with one another*, severely just, scrupulously truthful, compassionate toward the wretched and unfortunate, so honest that an individual on going off to pay a visit of some weeks would leave his tent, containing all his possessions, open and untenanted, without any fear of theft, and

that they were in general endowed with all that virile morality by which men regulate their conduct towards one another and make living together in society possible. What, then, was the foundation of the missionary's general depreciatory judgment? It was not a baseless verdict. His opinion had been formed in the light of an observation that astonished and appalled him. He was surrounded by a community that had not the faintest conception of the virtue of chastity, and chastity has been so exalted and glorified by the Christian Church that its absence might well strike a Christian missionary as the collapse of all morality.

It has now been shown that the morality of the family is varied and changeable. It has further been suggested that, when women are put aside, a remarkable agreement may be found between the morals of savage and civilized man. But this last statement requires some qualification. The modern American owes duties to every man as man; the primitive American owes none outside the circle of his own tribe. This contrast, however, is rather apparent than real. For, in times of war, Christian nations think it right to kill and plunder their enemies; and the normal condition of the savage is one of war,

with the rest of mankind as enemy. We may, therefore, say that under the same conditions the morality of savage and of civilized peoples is fundamentally the same. There is, however, a further limitation. Life has no sacredness *per se* among many savages; and children and old men, as useless members of the community, are, under the stern law of necessity or of custom, crystallized from it—frequently put to death. This, however, must not be confounded with murder; since among primitive peoples children fall under the category of property, and are, therefore, like slaves or other chattels, at the absolute disposition of the head of the house, as is very forcibly illustrated in early Roman law. With these qualifications and explanations, our proposition in its final form may be thus expressed: The fighting men, actual and potential, in every uncivilized community recognize the same rights, obligations, and duties towards one another as constitute the essence of civilized morality. You never find man without a moral nature, a nature essentially like our own; but the objects he includes within the scope of its outgoings vary, and as women and children were (sometimes at least) regarded as property before they were regarded as persons, the ethics of the family may be called

an acquisition or, better, an outcome, a late flower of the ineradicable root of morality.

If, as Plato supposes, reverence and justice were the primal gifts of God to man, then it was not until there had been some tillage in earthly life that they blossomed into fidelity, chastity, and all the charities of the family. How this quickening of moral discernment is brought about we cannot always explain; but the process of development may in some cases be actually traced, notably in the history of Rome. At the foundation of the city, wife-stealing was the practice; this was followed by purchase and legalized dominion under *patria potestas;* but in the course of several centuries the equal personality of woman came to be recognized, and Roman jurisprudence secured her a position as exalted as ever she has occupied in the history of the world. Her glory was of short duration, perishing with the fall of the empire; but it has been regained under the inspiration and teaching of a religion which proclaims the infinite worth and, consequently, the fundamental equality of every human being, and which exacts in the relations between the sexes such perfect purity that all distinction vanishes between the look of lust and the act of adultery.

As conjugal relations among mankind are not

of one but of various forms, and as at least some of them have undergone change and development, curiosity and, even, apprehension may be felt about the finality of our own system of monandrous and monogynous life-marriage, with its fair train of sweet and pure domestic virtues. Is it to remain forever, or is it destined to suffer the common fate of those evolutionary potencies which, in spite of seeming fixedness, turn out but moments in the life of an eternal becoming, fleeting shadows of something that never is, but always strives to be? To this question, answers have been given by evolutionists of a speculative turn of mind. And no objection need be taken to their intellectual gymnastics, provided only it is understood they are merely indulging in guesses concerning a matter which does not admit of even probable determination. One needs not to be especially sensible to what Bishop Butler described as the doubtfulness in which things are involved, it is enough to consider our absolute ignorance of futurity, to have the conviction that nothing whatever can be known about the coming development of society, or of any part of its organization.

Our knowledge of the family is restricted to the period of its actual existence. This, surely,

is a field vast enough for scientific cultivation. And of late considerable progress has been made in the investigation of the domestic life of primitive times. Much yet remains to be done in comparing, arranging, and interpreting what passes before our own eyes. It is a remark of Burke's that the generality of people are fifty years at least behindhand in their politics. And of social phenomena, still more than of political, is it true that men are "wise with but little reflection" in the understanding of all times but their own. While we have been ransacking the past, and forecasting the future, a change is actually going on in the form of our own system of conjugal relations, the significance of which seems altogether to have escaped attention. The effect of divorce, which has now been legalized in the greater part of Europe and America, has been to transform, within the area of its actual operation, civilized marriage into a casual bond essentially indistinguishable from that which formed the basis of what Morgan has called the "syndyasmian or pairing" family—the family of the Iroquois and other North American Indians. The legal forms, the technical procedure, the solemn plausibilities of the court, unessential and subsidiary as they really are, serve to hide from

us the essential object to which these are but convenient instruments. The virtue, soul, and essence of the whole business is the existence among us of a family ethics admitting casual unions and separations of the sexes with the same facility and frequency, and with as little loss of respectability, as is wont to obtain among savages and barbarians. It would doubtless be considered paradoxical to declare we had become converts to Milton's theory of divorce. But, as a matter of fact, we have, both in practice and in legislation, gone considerably beyond it. Every day's newspaper supplies fresh examples, and it would be musty to cite the now obsolete scandal of last week in the divorce-history of Rhode Island. Blind to the havoc which divorce is making in the old family system, we atone for our manners by embodying the principles of our fathers in denunciation of the Mormons. Unfortunately, this application of our retrospective wisdom and orthodoxy serves only to distract attention from the anomaly of our own practice, which (if polygamy be the name for "much-marriage" successively as well as synchronously) may be justly described as essential polyandry and polygyny.

This change in the constitution of the civilized

and Christian family, with the consequent obscuration of domestic virtue, receives no countenance from ethical science. On the contrary, comparative and historical ethics show that the "pairing" family has hitherto always been associated with a stage of culture immensely inferior to our own. And, from the interrelation of social forces, it might not unreasonably be apprehended that a return to the barbarous system of conjugal relations would entail general social deterioration. If ethical science does show that the family, and the morality of the family, have had an historical growth, and that they vary with time and place, it does not thereby really derogate from their sanctity or authority within a civilization that has once absorbed them. Science, indeed, can tell us nothing of the validity of virtue, duty, or good. And if speculation in the guise of moral philosophy takes up the problem, it will find that the domestic virtues have the same warrant as justice or benevolence—that warrant being, in a last analysis, an inexpugnable consciousness of their right to us and authority over us.

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